MISCELLANEOUS FISH AND WILDLIFE BILLS

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HEARINGS

BEFORE THE

COMMITTEE ON MERCHANT MARINE AND FISHERIES HOUSE OF REPRESENTATIVES

EIGHTY-FIFTH CONGRESS

SECOND SESSION

ON

H. R. 783

TO INTENSIFY STUDIES OF THE EFFECTS OF INSECTICIDES, HERBICIDES, AND FUNGICIDES

H. R. 13613 and identical bills; H. J. Res. 678 same subjects, and S. 2719

TO PROVIDE FOR THE PAYMENT OF BOUNTIES ON DOGFISH SHARKS TO CONTROL THE DEPREDATIONS OF THIS SPECIES ON THE FISHERIES OF THE PACIFIC COAST

H. R. 13475

TO AUTHORIZE AN EXCHANGE OF LANDS AT THE ROCHESTER FISH-CULTURAL STATION, INDIANA

S. 3295

TO AMEND THE FISH AND WILDLIFE ACT OF 1956 IN ORDER TO INCREASE THE AUTHORIZATION FOR THE FISHERIES LOAN FUND ESTABLISHED UNDER SUCH ACT

H. R. 11584

TO AUTHORIZE A PROGRAM FOR THE CONSERVATION, RESTORATION, AND MANAGEMENT OF THE RARE HAWAIIAN NENE GOOSE

JUNE 25, AUGUST 6, 8, AND 14, 1958

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MISCELLANEOUS FISH AND WILDLIFE BILLS

WEDNESDAY, JUNE 25, 1958

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON FISHERIES AND WILDLIFE CONSERVATION
OF THE COMMITTEE ON MERCHANT MARINE AND FISHERIES,
Washington, D. C.

The subcommittee met at 11:10 a. m., pursuant to notice, in room 219, Old House Office Building, Hon. Frank W. Boykin (chairman of the subcommittee) presiding.

Present: Representatives Boykin, Miller, Dingell, Tollefson, Allen, Van Pelt, and Glenn.

Also present: Bernard J. Zincke, counsel, and William B. Winfield, chief clerk.

Mr. BOYKIN. The committee will come to order.

We will consider at this time H. R. 783 and identical bill S. 2447, to intensify studies of the effects of insecticides, herbicides, and fungicides.

(H. R. 783 follows:)

[H. R. 783, 85th Cong., 1st sess.]

A BILL To authorize and direct the Secretary of the Interior to undertake continuing studies of the effects of insecticides, herbicides, and fungicides upon fish and wildlife for the purpose of preventing losses of those invaluable natural resources following spraying, and to provide basic data on the various chemical controls so that forests, croplands, and marshes can be sprayed with minimum losses of fish and wildlife

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Interior is authorized and directed to undertake comprehensive continuing studies on the effects of insecticides, herbicides, and fungicides upon the fish and wildlife resources of the United States, for the purpose of determining the amounts and percentages of such chemicals that are lethal to or injurious to fish and wildlife and the amounts or percentages or mixtures which can be used safely, and thereby prevent losses of fish and wildlife from such spraying.

SEC. 2. The sum of $280,000 per annum is hereby authorized to be appropriated to carry out the objectives of this Act.

Mr. BOYKIN. The committee is honored to have as its first witness our distinguished colleague, Representative Lee Metcalf, of Montana, the author of H. R. 783.

Mr. Metcalf, it is a pleasure to hear from you.

STATEMENT OF HON. LEE METCALF, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MONTANA

Mr. METCALF. As the author of H. R. 783, and of its predecessor, H. R. 11839, introduced on June 19, 1956, I deeply appreciate this opportunity to state the case for legislation to direct the Secretary of the Interior to begin continuing studies of the effects of insecticides, herbicides, and fungicides upon fish and wildlife.

At the outset, I want the committee members to know that I am speaking for the rest of the Montana congressional delegation—for Senator Murray, Senator Mansfield, and Congressman Anderson. They have gone over my statement and have asked me to associate them with my remarks today.

In the main, my statement is a repetition of testimony I presented on March 6 to the Merchant Marine and Fisheries Subcommittee of the Senate Committee on Interstate and Foreign Commerce on behalf of H. R. 783 and S. 2447, the companion bill introduced by the senior Senator from Washington (Senator Magnuson).

Studies authorized by this legislation will lead to determination of the amounts, percentages, or mixtures of such chemicals that can be used effectively while minimizing loss of fish and wildlife.

At least 3 billion pounds of these chemicals were dumped over more than 70 million acres of our crop and timber land to kill insects, weeds, and plant diseases last year. Each year, more acres are being sprayed with more efficient pesticides. Each year, dozens of new pesticides are developed. The 1955 issue of the Pesticide Handbook lists more than 6,000 commercial preparations of present-day poisons for controlling pests.

Of course, there is economic justification for such a program. The Department of Agriculture estimates that insects alone cause losses exceeding $4 billion a year. Everyone appreciates the need for minimizing the damage to forests and farm production. But we also must be concerned over the potentially destructive effects of these chemicals on wildlife.

Despite the enormous good wrought by chemical controls, they are a mixed blessing. Being poisons, they can be harmful to birds, mammals, and fish. Considerable damage to valuable fish and wildlife resources has occurred unnecessarily because chemicals were applied without sufficient knowledge of accepted procedures or without full regard to the consequences.

We all know of plant loss resulting from chemical controls. They have been due largely to carelessness, a lack of knowledge or of judgment.

Actually, we know very little of even the direct effects of many control agents on plants, animals, soils, and soil organisms. We know less about the indirect, accumulative, longtime effects of these controls upon plants, wildlife, and even on man. This is because development of new controls, with almost unlimited funds, has raced far ahead of testing.

This control program involves a multi-billion-dollar recreation and commercial fishery industry of interest to at least 40 million Americans. According to a recent survey, America has some 25 million sportsmen. They spend approximately $3 billion and 567 million man-days hunting and fishing each year. Caring for tourists is a major industry in many States—among them Montana, where the tourist business is our third-largest industry.

Sportsmen, conservationists, foresters, and farmers are equally concerned about minimizing damage to crops and to our wildlife. Dead fish, pheasant, quail, ducks, and the resultant damage to the tourist business is a poor trade for dead bugs.

Experts tell me that the toxicity of these chemicals depends on many things—among them the species, formulation, dosage, period of feeding or exposure, mode of entry into the body, and various environmental and other conditions. But all are poisons.

One of the newer and most effective insecticides is parathion. One of the insecticide companies says parathion is so dangerous that a fraction of a teaspoonful of the pure material on one's wrist would, if not washed off, cause death within 15 minutes.

While preparing this statement, I took a bottle of insecticide down off the shelf of my garden supply closet and read the label. It includes these words:

CAUTION: Danger—* * * Keep out of reach of children. Avoid contamination of feed and foodstuffs. Avoid excessive inhalation. Do not get on skin, in eyes, or on clothing. Wash skin with plenty of soap and water. For eyes, get medical attention—flush with water for 15 minutes. Do not feed forage crops treated with this material to dairy animals or to animals being finished for slaughter. Do not apply to foliage of white or sweet potatoes. Do not use in soil where potatoes will be grown within 2 years. * * * Do not use on edible crops within 30 days of harvest unless otherwise specified.

According to the label (Ortho Isotox, Garden Spray M), this spray contains lindane, malathion, and DDT.

Confusion among experts on the effects of chemical controls upon wildlife, plants, and even upon man extends to the manufacturers. Last year, I inserted in the Congressional Record a letter announcing the withdrawal of the Thompson Chemicals Corp., of Los Angeles, Calif., and St. Louis, Mo., from the production, distribution, and research of the presently known agricultural insecticides.

In that letter, which is on pages A4076 and A4077 of the May 27, 1957, Congressional Record, the company president, William T. Thompson, says that the—

currently known and used broad spectrum insecticides and their wide-scale application to agricultural crops—although giving temporary control and temporarily increased yields—are at best palliative, and perhaps will prove dangerous and uneconomic in the long run.

Recently the press has carried accounts of disagreement among biologists on the Department of Agriculture program for controlling fire ants in the Southern States.

In a letter to the Secretary of Agriculture, Mr. Ernest Swift, executive director of the National Wildlife Federation, wrote that application of two chlorinated hydrocarbons—heptachlor and dieldrin—being used for this program have, in some instances, had devastating effects upon birds, small game animals, and aquatic life.

Our inquiries indicate that 2 pounds per acre of these compounds will be used in the eradication program now being initiated by your Department in cooperation with State and local agencies of the Southeast—

Swift wrote.

Studies of the losses inflicted by dieldrin and heptachlor upon small birds, mammals, and fish have shown that application of even less than one-quarter pound per acre can result in heavy mortality.

In the issue of Sunday, March 2, 1958, the Washington Post and Times Herald carried a reply from Mr. D. R. Shepherd, head of the Department's cooperative control operations section. He was quoted as saying that the—

threat to animals, helpful insects, and fish has been greatly overstated by conservationist groups.

But I have a copy of a letter to Secretary Benson supporting Mr. Swift, and suggesting that the problem he raised "is even more serious than Mr. Swift has indicated." This letter from the Biological Laboratories of Harvard University is signed by William L. Brown, associate curator of insects; Herbert W. Levi, associate curator of arachnology; and Edward O. Wilson, assistant professor of biology.

The need for an immediate full-scale research program also is emphasized by the preliminary findings of the Fish and Wildlife Service and its cooperators in research into the fire-ant-control program. This report, a summary of information available May 25, 1958, was extended with my remarks on pages A5592–A5594 of the June 18, 1958, Congressional Record.

This summary shows a direct loss of animal life in test areas from poisoning following aerial application of pelleted heptachlor for fire-ant control of up to 85 percent. The kill included fish and aquatic life, songbirds, quail, rabbits, squirrels, field rodents, cats, a calf, armadillos, hawks, owls, a crow, and red fox cubs. Laboratory analysis revealed enough of the posion in body tissues to have caused death.

As I said when I first read this report, laboratory tests show that some pesticides inhibit the reproduction of wildlife. For all we know, we may be busying ourselves rendering the next generation sterile as we go about scattering these pesticides.

When the Interior Department appropriation bill (H. R. 10746) was being considered by the other body on April 30, 1958, the junior Senator from Texas (Senator Yarborough) moved to add $300,000 to launch the pesticide-research program during the year beginning next July 1. That amendment was withdrawn when the senior Senator from Arizona (Senator Hayden), chairman of the Senate Committee on Appropriations, said the matter would be considered at a supplemental budget hearing later this session.

Following this exchange, on pages 6928–6929 of the Congressional Record, the senior Senator from Arizona wrote the Agriculture and Interior Departments, asking their needs for pesticide-research funds.

The United States Fish and Wildlife Service obtained Interior Department approval to ask for $270,000 to start this research program. This request was rejected by the Director of the Bureau of the Budget, President Eisenhower's fiscal spokesman.

An excellent summary of current knowledge concerning the effect of insecticides on birds, fish, and other wildlife appeared in the summer of 1956 issue of Audubon magazine, publication of the National Audubon Society. It is an authoritative article by Mr. Paul F. Springer, wildlife-research biologist at the Patuxent, Md., research refuge of the United States Fish and Wildlife Service. It is also well balanced—not only describing how various insecticides can damage wildlife, but also pointing to the need for insecticide applications and how harm to wildlife can be limited by proper choice of materials, formulation, or timing. This article was extended with my remarks on pages A5970–A5971 of the July 28, 1956, issue of the Congressional Record.

Mr. Springer says mammals usually show more resistance to poisoning by DDT and other new insecticides than do fish. This is borne out by a study just completed in Montana.

Chemical control of the spruce budworm, which by that time had reached epidemic proportions, was begun in Montana in 1952. DDT

was applied from the air at the rate of 1 pound per acre on 12,000 acres of the Bitterroot National Forest. This project was followed by similar hot-spot spray programs on the Helena and Nez Perce National Forests and Yellowstone National Park in 1953. In 1955, a control project of 132,856 acres was completed in and adjacent to the park.

In October of that year, following the spraying, the Montana Fish and Game Department received reports of fish dying in the Yellowstone River. Observations of fish mortality were made all along the river system, 91 road-miles, from Gardner to Big Timber. At one point, investigators found 600 dead fish—mostly whitefish, but including many brown trout—in approximately 250 yards.

The fish were emaciated. They may have starved to death. But DDT was found in brain, liver, and kidney tissues. That winter, the Department sampled and compared aquatic insects in sprayed and unsprayed areas in the drainage. They found a noticeable absence of insects, on which fish live, in the sprayed areas.

Investigators turned to current literature on DDT. They found conflicting results, and noted that "very little was known about the long-range effects in streams."

So, together with the Fish and Wildlife Service and the Forest Service, the Department started a study to determine the effects of future spray operations on several trout streams. In January of this year, those agencies issued a report on their study. I have a copy of that report for your reference. Researchers did extensive work on seven Montana trout streams in areas sprayed by DDT.

Studies show that aquatic bottom organisms are materially reduced by the spraying; reductions of over 90 percent of the volume were common. By the fall following spraying, insect recovery on these streams represented only a fraction of the normal volume. By the end of the second summer, volume recovery of bottom organisms ranged from more than 100 percent to practically zero. One stream showed a volume of bottom organisms exceeding that prior to spraying. On five, recovery had progressed considerably but did not equal prespray volumes. On the seventh stream, one of the richest in bottom fauna prior to spraying, only a trace of aquatic organisms was found in the second summer.

Researchers also did a census of the fish in these seven streams during the summer of spraying, and again the following year. This census did not reveal any fish mortality during the summer of spraying. In the second summer, fish populations on five of the streams approximated those of the previous year. On 2 streams, game fish reductions in sprayed sections of 70 and 80 percent occurred between the summer of spraying and the following year. The stream with the 80 percent game-fish reduction was also the stream where aquatic-insect recovery was practically nonexistent.

One paragraph in the conclusion of this report stands out. It reads:

> **Information collected thus far indicates that forest spraying with DDT at the rate of 1 pound per acre will result in fish kills, some of which will be serious. Extreme caution in spraying near streams and lakes will reduce the hazard to fish and aquatic organisms. Repeated spraying within 3 or 4 years will not give affected bottom organisms and fish population a chance to recover adequately.**

31722—58——2

So far, I have concentrated on insecticides. The questions that have been raised also are true for herbicides and fungicides.

Experts tell me that most of the herbicides now in use appear to present little hazard to animal life at recommended dosage levels, but their indirect effects on wildlife habitat may be serious. Here, again, testing lags far behind development.

As you can see, we must have the research authorized by this bill if we are to protect our valuable wildlife resources while at the same time minimizing pest damage to our forests and farmland.

My file on this bill includes support from the great national conservation organizations and many of their local chapters. I am sure you have heard from them, too.

In addition, this legislation has the support of the Montana Fish and Game Department. Letters from Mr. W. J. Everin, deputy director, and Mr. Walter M. Allen, superintendent of fisheries, Montana Fish and Game Department, have previously been forwarded to this committee for inclusion in the hearing record.

In closing, I note that, according to Senate Report 1952 on S. 2447, "the Agriculture Department did not reply to the committee's request for comments on this legislation."

I am glad that the Agriculture Department saw fit to report on H. R. 783. As you know, that report, dated March 14, 1957, and signed by Acting Secretary True D. Morse, said the Department of Agriculture "would have no objection to the enactment of H. R. 783."

Mr. BOYKIN. Thank you, Mr. Metcalf.

Mr. METCALF. Thank you.

Mr. BOYKIN. Mr. Nadel.

STATEMENT OF MICHAEL NADEL, ASSISTANT EXECUTIVE SECRETARY, THE WILDERNESS SOCIETY

Mr. NADEL. Mr. Chairman, I have a statement of Mr. Howard Zahniser, executive secretary and editor of The Wilderness Society. May I read it?

Mr. BOYKIN. Yes.

Mr. NADEL. The Wilderness Society is a national nonprofit citizens conservation organization, with a membership of approximately 11,000 in our 48 States, the Territories of Alaska and Hawaii, and other countries. The headquarters of the society are at 2144 P Street NW., Washington, D. C.

We support the pesticides legislation before you, which would provide for comprehensive, continuing studies on the effects upon fish and wildlife resources of the United States of insecticides, herbicides, and fungicides.

So little is known about the effects of the increasing number of chemical nostrums, the field data is so inadequate, that unknowingly we may be building hazards not only for today, but possibly hazards which may prove disastrous in a cumulative way.

It appears to us that the program of research which is proposed by this legislation is one of the most urgent of our obligations. We hope that it will receive the full blessing of your committee.

Thank you, sir.

Mr. BOYKIN. Are there any questions?

Mr. MILLER. Is it not true that in the past insecticides or poisons used to get rid of certain vermin or rodents have resulted in disturbing the balance of nature and have brought about much more damaging effects than nature in herself provided when left with her own species in balance?

Mr. NADEL. I am not a biologist but that is my understanding.

Mr. MILLER. There have been places where very deliberately they have experimented in taking out certain animals or rodents, for instance, that take care of the over-snake population and when they got them out the snakes took care of the field birds and their nests and they immediately fell off much more than leaving certain of the others there. There are places where they have taken certain hawks and owls and disturbed one specie where it has reversed itself and done more damage in the final analysis than if they were left there?

Mr. NADEL. I have read many accounts that that has been the situation.

Mr. MILLER. Nature has provided a very delicate balance which is easily upset with something that appears good on the surface and until you know definitely you can do untold damage which can result in great losses both in wildlife and in monetary values of wildlife. Is that correct?

Mr. NADEL. That is true. There is every indication that this is the result.

Mr. MILLER. That is all, Mr. Chairman.

Mr. BOYKIN. Are there any questions, gentlemen?

Thank you very much.

Mr. NADEL. Thank you, sir.

Mr. BOYKIN. Mr. Janzen.

STATEMENT OF D. H. JANZEN, DIRECTOR, BUREAU OF SPORT FISHERIES, ACCOMPANIED BY DANIEL L. LEEDY, CHIEF, BRANCH OF WILDLIFE RESEARCH, BUREAU OF SPORT FISHERIES, DEPARTMENT OF THE INTERIOR

Mr. JANZEN. Mr. Chairman, in the interest of time I will have a short statement here that I would like to leave with you for the record.

(The statement referred to is as follows:)

STATEMENT BY BUREAU OF SPORT FISHERIES AND WILDLIFE, CONCERNING NEED FOR EXPANDED PROGRAM OF RESEARCH INTO EFFECTS OF CHEMICAL PESTICIDES

The control of insects, plant diseases, and weeds is an essential part of our economy. To achieve this control, and to reduce the $11 billion annual toll exacted by pests, American industry last year produced more than 500 million pounds of chemical pesticides, and distributed these materials over 100 million acres of agricultural lands and forests. The total expenditures for pesticidal operations in the same period was estimated at $2 billion.

Despite the enormous growth of the pesticide industry during the past 15 years, it is estimated that the present production meets only one-sixth of the potential requirements. Thus, the industry will continue to expand, and many new compounds and formulations will be introduced to supplement some 220 chemical agents already on the market.

Operations for control of the imported fire ant, gypsy moth, spruce budworm, grasshoppers, and other pests necessarily involve the large-scale application of toxic matedials to land areas used as wildlife habitat. Measures taken for the protection of man and domestic animals are not effective for the prevention of damage to birds, fish, and other wild species. Cattle may be prevented from feed-

ing in treated pastures, and contaminated foodstuffs may be barred from interstate commerce, but there is no way to exclude birds from treated forests, nor to insure that wildlife foods do not contain harmful materials.

Each operation, and each introduction of new material raises new questions as to effects upon our wildlife resources and on procedures to be taken to minimize possible damage. Present research is inadequate to supply answers to many of these questions. Laboratory and field data are needed for the evaluation of many compounds now in use, and there is relatively little information on others which are being introduced. In short, scientific knowledge in the field of pesticide-wildlife relationships is at least 10 years behind the discovery, formulation, and use of these chemicals.

Although experience has shown that many pest-control operations have been and are being carried out without serious side effects, there is mounting evidence that some pose a major threat to birds, fish, and mammals. A Florida operation for the control of sand flies involved aerial application of 1 pound of dieldrin per acre on 2,000 acres of marshland and resulted in almost complete destruction of acquatic life in an adjacent canal. The fish kill was estimated between 20 and 30 tons, involving over 1 million fish of 30 different species.

Endrin, a more toxic relative of dieldrin, was widely used by orchardists last fall at a rate of 2 pounds per acre as a ground spray for the control of tree-girdling mice. When applied at this rate it kills mice, but also endangers other mammals and birds. Water runoff from such areas has killed fish in nearby streams and ponds.

Although there are as yet insufficient laboratory or field data to pinpoint the hazards to wildlife of heptachlor now being employed in the fire-ant eradication program throughout 9 Southeastern States, a recent survey of a 2-acre plot in Georgia about 1 week after treatment revealed the remains of 5 quail, 16 song sparrows, 4 rabbits, and several field mice. Also, laboratory studies of quail and pheasants subjected to diets containing 1 part per million of heptachlor showed a lowered reproduction in these birds.

Numerous reports, similar to those cited above, constitute what may be termed as circumstantial evidence against the large-scale use of certain insecticides. Adverse effects are difficult to prove. Techniques for the detection of minute amounts of pesticide residue in animal tissue are extremely complicated. Furthermore, lethal effects of some are slow, and migratory forms of fish and wildlife exposed to them may travel many miles before death occurs. In other cases, mortality can be due to slow starvation when insects and other invertebrate sources of food for fishes, mammals, and birds are destroyed by large-scale pesticide application.

Studies of DDT in relation to wildlife have shown that applications at the rate of 1 to 2 pounds per acre on forest and agricultural land usually are not significantly harmful to birds and mammals. Fish are more susceptible, however, and dosages in the vicinity of streams and ponds should not exceed two-tenths of a pound per acre. Applications of 5 pounds or more of DDT per acre produce severe losses to all types of wildlife.

Laboratory studies of other insecticides, such as heptachlor, aldrin, dieldrin, and endrin, indicate that these compounds are from 15 to 200 times as toxic as DDT to birds. While some of the laboratory findings have not been fully substantiated by field observations, we must assume that large-scale applications of the more toxic chemicals at dosage rates of 1 or 2 pounds per acre entail considerable hazard to wildlife.

Information on this complex pesticide-wildlife relationship problem is urgently needed and can be obtained only through research on a much greater scale than is possible with the present budget of $56,500 for field studies. The need will increase as new chemicals are added to the list of pesticides and as control programs increase in scope and intensity. Both laboratory and field investigations are required to determine the toxicity of pesticides to wildlife, to measure the effects produced by many formulations at varying rates of applications and under different conditions, and to develop sound and effective guidelines for protecting wildlife resources from unnecessary losses.

Mr. JANZEN. I would like to say that we feel this problem of finding out more about what pesticides are doing is one of our most important problems facing fish and wildlife in this Nation.

About 500 million pounds of chemicals were used last year in agriculture, forestry, and so forth, spread over, you might say, most of the

United States where fish and wildlife is found. While we do not have the detailed evidence yet that we would like to have, preliminary information indicates that some of the chemicals are going to be disastrous, almost clean out wildlife in some sections.

Mr. BOYKIN. Any particular chemical?

Mr. JANZEN. Some of the chemicals like endrin, and dieldrin are very, very potent. Dieldrin, for example, we have found through experimentation to be about 20 times as potent as DDT. We have found that aerial applications of DDT, exceeding 2 pounds per acre, do some damage to wildlife and can do much damage to fish. At the present time in some places dieldrin has been used in a quantity of 2 pounds per acre which would be equivalent to 40 pounds of DDT so that you can see the potentialities.

The problem that is facing us is that there are so many new chemicals, some of them even more potent than dieldrin, and we do not know what their effect will be on fish and wildlife.

We feel that it is very important that we carry on a much expanded research program on this problem.

Mr. MILLER. They can result in mutations, can they not?

Mr. JANZEN. We have found a very interesting thing at our Patuxent laboratory where we were feeding quail sublethal doses of DDT, not enough to kill the birds. They found that their reproduction was greatly cut down. We found that if we fed the young DDT in sublethal doses, not enough to kill the young, that they did not have any reproduction at all, so that it does not only mean that we have to find the dead birds but it might have a serious effect on reproduction, one that has startled and worried us very much.

Mr. MILLER. Is it not true that in the West, where they used to spread poison grain to take care of rodents, that the quail crop dropped off as a result of it? I think there is a great deal of evidence to that effect, is there not?

Mr. JANZEN. If you wish more information, I have with me our Chief of Research, who might give you more information. I do not know. I know that endrin, which has been used for the control of rodents in orchards can have a very serious effect on wildlife and fish.

Mr. ALLEN. Mr. Chairman, may I ask one question?

I notice that S. 2447 has no provision for an appropriation and that H. R. 783 authorizes that there be appropriated annually $280,000. Is $280,000 the amount within which the program can operate?

Mr. JANZEN. At the time that this bill was under consideration, we felt this would give us a very fine start, but I will say that in the last 6 months we have started with our preliminary research work. It may be that before long we may be asking for an amount considerably in excess of that but it seems that that would be the minimum amount that we could consider to begin to catch up with this program. We are behind. We did not realize what was going on.

Mr. ALLEN. For the present, $280,000 would give you a good start?

Mr. JANZEN. Somewhat around that figure; yes, sir.

Mr. ALLEN. Thank you.

Mr. BOYKIN. Are there any other questions?

Mr. ZINCKE. Mr. Janzen, the departmental report on H. R. 783 requested a number of technical changes. Have they all been incorporated in S. 2447?

Mr. JANZEN. That is my understanding; yes, sir.

Mr. ZINCKE. Thank you, sir.

Mr. BOYKIN. May we hear from your biologist?

Mr. LEEDY. My name is Daniel L. Leedy, Chief of the Branch of Wildlife Service in the Bureau of Sport Fisheries and Wildlife.

Mr. MILLER. Can you give us in your own words a few examples of what can happen or what has happened in this field and what you anticipate would happen so that we have a basis for our consideration?

Mr. LEEDY. Our concern, as Mr. Janzen has pointed out, is twofold. In other words, we are concerned about the direct effects of pesticides on fish and wildlife and the indirect effects.

Mr. Janzen has indicated that most of our work has been done to date on DDT. This was one of the first of the chlorinated hydrocarbons used as an insecticide. More recently many, many more insecticides have appeared. Now there are something over 200 basic chemical pesticides on the market, sold under a great many more brand names, and we are perhaps 10 years behind time in our research as to the effects of these pesticides on fish and wildlife.

We know from work in the laboratory that these chemical pesticides affect reproduction. They lower the rate of reproduction. They also cause a higher rate of crippled chicks among quail and pheasants and also, as Mr. Janzen pointed out, the young of adult birds which have been given sublethal doses of these pesticides have failed to reproduce satisfactorily in captivity.

Some of our greatest needs in this field of research lie in field observation, the effects of these pesticides when applied over extensive areas in the field. We know that laboratory work will not give us all the answers. We need to have extensive observations made under field conditions in varying soil, moisture, and weather conditions. They all have an effect.

We need to learn what effect these pesticides have through the food angle. In other words, the killing off of insects may have an effect on the availability of foods for certain species of wildlife.

We are concerned about the possibility of pesticides reducing the earthworm population in our Southern States where the woodcock winters. Earthworms, as you know, constitute one of the chief foods of the woodcock.

We have a contract research study underway with the Louisiana State University and preliminary studies have shown that the heptachlor that is being used in fire-ant control operations have cut down some on the earthworm population.

To get the final answer on this problem is going to take time. It is going to take a lot of work. We do not feel that we have sufficient information at present to say definitely how serious this question is. If in the field the same thing happens as happened in the laboratory, if the effect on reproduction is maintained in the field, it is going to be really serious.

We also know that in many game populations like quail, we can take about half the fall population off 1 year and have a good population back next year. In other words, they bounce back. If this does have an effect on the reproductive rate, they will not come bouncing back.

I do not know whether I have covered any of the things that you are particularly interested in. If you have questions I would be glad to try to answer them.

Mr. MILLER. I would say, Mr. Chairman, that the gentleman has, as a scientist, been very guarded in what he is telling you. He tells you that this has been taking place in the laboratory. He does not know whether it will take place in the field. That is the very thing that we want to prove. To me it is highly important that this bill be passed to get these investigations underway because you could lose entire species in certain sections and there would be no bounce back. We have lost species in the past, have we not?

Mr. LEEDY. Through historic times we have, yes.

Mr. MILLER. We have through the impact of civilization on them because we did not know how to take care of them.

Mr. LEEDY. That is right, sir.

Mr. MILLER. We have turned loose other species through the same careless way because we have not looked to the future. We would not have had starlings in this country possibly if we had done that.

Mr. BOYKIN. What effect do you think it has on plant life, not only bushes and grass and shrubs but trees?

Mr. LEEDY. I think we have some witnesses or people in attendance here from the Department of Agriculture who could answer that question much better than I but insofar as I know the insecticides have little effect on the vegetation. Of course, you get herbicides and some of the other so-called pesticides designed specifically for killing off vegetation or controlling vegetation.

Mr. BOYKIN. Are there any questions?

Thank you very much, sir.

Mr. LEEDY. Thank you, sir.

Mr. DINGELL. Mr. Chairman, I ask if the witness will submit additional data on the specific impact of some of these commercial pesticides that we now have on wildlife. He might want to submit something like that for the record.

Mr. LEEDY. We have a preliminary report here that we could submit. It is very preliminary in nature.

Mr. DINGELL. Fine. If there would be no objection, would it be possible to put that in the record, Mr. Chairman?

Mr. BOYKIN. Without objection, so ordered.

(The document referred to follows:)

DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

BUREAU OF SPORT FISHERIES AND WILDLIFE

Washington, D. C.

The enclosed progress report has been prepared in response to inquiries from many sources for interim information on the impact of the fire-ant eradication program upon wildlife. We wish to emphasize that the recorded findings are preliminary and confined to immediate effects on wild populations. The areas under observation collectively comprise only a small portion of the total acreage treated to date and an even lesser percentage of the lands infested by this imported pest. Localized mortality to wildlife, even though heavy, may not be significant provided there is rapid repopulation from adjacent sources and provided there are no lingering toxic effects which would inhibit normal increases in animal numbers.

As the studies continue, we shall endeavor to obtain authoritative information as to how confined or widespread the losses are and the relationships, if any, between hazards to wildlife and such variables as cover and soil types, soil moisture, weather conditions, and time of application. Laboratory tests have revealed that many of the modern insecticides and their residues are cumulative in action and that prolonged exposure to sublethal doses may seriously impair reproduction and the survival of young. The long-term effect under field conditions of the fire-ant eradication treatments remains to be determined and is, as a matter of fact, one of our major research objectives. Until these details are known, a complete appraisal of the program in relation to wildlife is not possible.

We shall continue to work in close liaison with the Department of Agriculture to insure the earliest possible consideration of findings which will be useful in reducing hazards to wildlife.

D. H. JANZEN, *Director.*

EFFECTS OF THE FIRE-ANT ERADICATION PROGRAM UPON WILDLIFE

SUMMARY OF INFORMATION AVAILABLE MAY 25, 1958

The imported fire ant (*Solenopsis saevissima richteri* Forel) apparently entered this country in the vicinity of Mobile, Ala., about 1918, and has extended its range until it now infests some 20 million acres in 8 Southeastern States. In March 1957, the United States Department of Agriculture stated that it had requested congressional approval for control of this pest, and on October 7, 1957, the Department announced plans for large-scale eradication programs. Insecticidal applications were to be made by airplane, motorized ground equipment, and hand applicators, and it was stated that all infested lands, regardless of ownership or use, would need to be treated if the program was to succeed. It was anticipated that a single application of 2 pounds of heptachlor or dieldrin per acre would give protection for a minimum of 3 years.

The Bureau of Sport Fisheries and Wildlife recognizes the value of, and the need for, effective control of insect pests. However, the Bureau has moral and statutory obligations to aid in the development of information, methods, and materials which will protect and preserve desirable wildlife species, resist depletion, and promote the use of these living resources. In keeping with these responsibilities, constant efforts are made to determine the toxicity of pesticides to birds, fish, and wild mammals, and to evaluate insect control operations as factors in wildlife depletion.

At the time the fire-ant eradication program was launched, the Bureau had little direct information on effects to be expected from applications of grandular heptachlor or dieldrin. Indirect information included—

Aerial applications of 5 pounds of DDT (in oil) per acre of forest were highly destructive to birds.

Damage to fish and other aquatic life had resulted when forest areas were treated with 2 pounds of DDT (in oil) per acre.

Five annual applications of 2 pounds of DDT (in oil) per acre reduced numbers of nesting birds by 26 percent.

Studies with penned quail and pheasants had shown that heptachlor is 10 to 15 times more toxic than DDT fed under comparable conditions, and that dieldrin is 20 times more toxic than DDT.

Reproduction of penned quail and pheasants was reduced by feeding upon diets containing sublethal amounts of DDT, heptachlor, or dieldrin.

The Bureau had no desire to prejudge the fire-ant eradication program on the basis of this indirect evidence. It was felt, however, that the magnitude of operations scheduled to involve millions of acres, the toxicity of the insecticides used, and the persistent residues left by these materials posed possible threats to wildlife values. The Department of Agriculture was advised of the Bureau's concern, and in December 1957 arrangements were made for exchange of information through liaison representatives appointed by the two organizations. At the same time, studies of the effects of the eradication program upon wildlife were initiated. Bureau employees were assigned to determine the extent and significance of any immediate losses of wildlife, and to evaluate possible long-range effects upon reproduction and maintenance of wildlife numbers. Work of these employees was augmented through research contracts with Louisiana State University and Alabama Polytechnic Institute, and through the cooperation of the Texas Game and Fish Commission.

Data on possible long-range effects upon reproduction and maintenance of populations will not be available for several months. Information on immediate effects has been obtained through checks of sample areas in Decatur County, Ga., and Acadia Parish, La., and through systematic pre-, and post-treatment studies of study areas in Wilcox County, Ala., and Hardin County, Tex. These data may be summarized as follows:

Decatur County, Ga.—Posttreatment observations were made in various sections of the 48,000 acres treated by aerial application between November 20, 1957, and March 5, 1958. Observers were Deen, Webb, Ross, Cole, Williams (Atlanta regional office, Bureau of Sport Fisheries and Wildlife); Speake (Alabama Cooperative Wildlife Research Unit); Rosene, DeWitt (Branch of Wildlife Research, Bureau of Sport Fisheries and Wildlife). (About 4,500 acres checked, of which 1,500 acres in cropland, 1,000 in open woods and 2,000 in woods with good ground cover.)

No evidence of damage to fish and other aquatic life in 5 impoundments, 14 smaller ponds, and other miscellaneous pools and tanks checked at various intervals between February 24 and March 14 (Webb).

No evidence of wildlife damage apparent in section treated on November 20 and checked 3 months later on February 25. Another area treated January 10 and 13 revealed no sick or dead specimens when checked between February 25 and March 5 (Deen et al.).

Heavy losses in sample plot (approximately 2 acres) treated on January 29 and checked on February 6 (Rosene, Speake) and on March 18 (Rosene, DeWitt). Dead specimens recovered included 6 quail, 7 rabbits, 20 songbirds, 3 field rodents, and 1 cat. Heptachlor and heptachlor epoxide were found in tissues of these specimens. Bird and animal activity in this area on February 6 was appreciably lower than in adjacent untreated plots, and no live birds or rodents were seen on March 18.

Six plots (size not given) treated between February 20 and March 5; checked by Deen, et al., on several dates between February 26 and March 5. Dead specimens found included 18 quail, 24 rabbits, 62 songbirds, 5 rodents, 2 cats, and 1 calf. Presence of heptachlor and heptachlor epoxide in birds and rabbits was demonstrated by chemical analysis. Dead frogs (13) were subsequently observed in one of these areas on March 18 (Rosene, DeWitt).

Hardin County, Tex.—Pre- and post-treatment observations were made on 1,400 acres treated by aerial application with 2 pounds heptachlor per acre on March 3. Studies were made by D. W. Lay (Texas Game and Fish Commission). Sampling was done on a systematic basis, using 24 transacts 66 by 660 feet representative of the entire area, and through roadside counts. Incomplete report dated April 5 shows—

Pretreatment counts showed 8.9 birds per mile of roadside and 6.1 birds per acre. Posttreatment counts showed 1.4 birds per mile and 1.7 birds per acre.

Quail numbers dropped 77 percent in 10 days after treatment, and survivors were observed to have difficulty flying.

Ninety-one birds, 2 nutria, 3 rabbits, 1 squirrel, 2 raccoons, 1 opossum, and 3 armadillos were found dead. Mortality reached its peak on the 9th and 10th days.

Heavy loss of aquatic life despite efforts to protect canals, etc.

Chemical analysis of birds and mammals showed presence of heptachlor and heptachlor epoxide in such quantities that death is presumed to have resulted from heptachlor poisoning.

Wilcox County, Ala.—Pre- and post-treatment observations were made on approximately 4,000 acres on and near the Alabama Polytechnic Institute Lower Coastal Plains Research Substation. A control area of 550 acres was left untreated, 1,000 acres were treated with dieldrin, and the remainder treated with hephachlor. Observers were Dr. M. F. Baker, leader, Alabama Cooperative Wildlife Research Unit, and assistants. Incomplete report shows—

Fourteen out of 16 coveys of quail on the treated area disappeared, and are presumed to have been killed. Range of the remaining two coveys included untreated land off the area. Quail on untreated control area were unharmed.

Heavy mortality of ground-dwelling species, such as towhees, meadow larks, cotton rats.

Two hawks, 1 barred owl, and 1 crow found dead; 4 red fox cubs killed in the den.

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Newly killed specimens still being found 7 weeks after treatment. Thus far, 180 animals of 24 species have been recovered.

Heavy losses of fish and frogs.

Heavy losses of fish in pond three-eighths of a mile from area treated with dieldrin.

Specimens from this area are now being analyzed. Heptachlor and heptachlor epoxide have been found in all specimen examinations completed.

Acadia Parish, La.—Posttreatment observations were made on 2 plots; 1 of 300 acres treated with heptachlor on March 2 and observed on March 5; and 1 of 400 acres treated March 1 and observed March 10. Observes were Glasgow and Catalano (LSU). Pre- and post-treatment determinations of earthworm numbers were made in four treated areas and on an untreated check plot. Preliminary report dated May 20 shows number of earthworms in treated plots decreased from 4.75 per 5-inch sample to 1 or 78.9 percent. Decrease on the check plot was from 2.5 to 1.4, or 44 percent.

Initial mortality of animal life was apparently high. Mammals, birds, fish, crawfish, and snakes were found dead. No estimate of reduction in bird and animal numbers is given.

These reports from all areas studied by Bureau of Sport Fisheries and Wildlife employees or cooperating agencies show losses of birds and small mammals as an immediate consequence of the fire-ant-control operations. Bird numbers in the 2 most extensively studied areas were reduced 75 to 85 percent. In Hardin County, Tex., dead specimens recovered amounted to 33 percent of the estimated pretreatment population. Quail and rabbit populations were decimated or completely wiped out.

The areas involved in these studies represent a relatively small proportion of the 300,000 acres treated to date, or of the 20 million or more acres scheduled for treatment. The data so far available reflect only immediate losses and do not indicate possible long-range effects from continued exposure to residues in the soil. Further studies are needed to establish whether the observed losses are a typical or whether they are replicated throughout the range of the imported fire ant.

The Department of the Interior and the Department of Agriculture are continuing to work together in efforts to develop guidelines and procedures which will minimize damage to wildlife resources.

Mr. BOYKIN. Mr. Louis S. Clapper, assistant conservation director, National Wildlife Federation.

STATEMENT OF LOUIS S. CLAPPER, ASSISTANT CONSERVATION DIRECTOR, NATIONAL WILDLIFE FEDERATION

Mr. CLAPPER. Mr. Chairman, I am Louis Clapper, assistant conservation director, National Wildlife Federation. We would like to submit this statement and urge favorable consideration of these measures, S. 2447 and H. R. 783.

(The statement referred to follows:)

STATEMENT PRESENTED BY LOUIS S. CLAPPER, ASSISTANT CONSERVATION DIRECTOR, ON PESTICIDE RESEARCH MEASURES

The National Wildlife Federation is a nonprofit citizens' organization made up of affiliated groups in 50 States, Territories, and the District of Columbia. The combined memberships of these affiliates total more than 2 million people.

This statement is being presented today, Mr. Chairman, to urge that favorable consideration be given to pesticide research measures H. R. 783 and S. 2447, the latter of which already has been approved by the Senate. This request is in line with a pesticide research resolution adopted by the National Wildlife Federation in annual convention earlier this year. The resolution, in part, reads as follows:

"The National Wildlife Federation urges the Congress of the United States to enact authorizing legislation and provide the necessary appropriations for, and the executive agencies to undertake, adequate and realistic programs to determine the effects of such chemicals and safe rates and methods of applications, and recommends that no large-scale eradication program be initiated by any Federal agency prior to the completion of such research program."

Initially, H. R. 783 and S. 2447 were identical bills. In the version passed by the Senate, however, some alterations were made. The major change was to delete the $280,000 annual appropriation because it was felt that larger amounts of money might be necessary during some years and an arbitrary ceiling would not be advisable. In fact, the House Appropriations Committee now is considering a request from the National Wildlife Federation and other conservation organizations that the United States Fish and Wildlife Service be granted a minimum of $300,000 in supplemental appropriations for the next fiscal year for the purpose of expanding research into effects of pesticides.

There is no question, Mr. Chairman, that the United States Fish and Wildlife Service, Department of the Interior, should be authorized and directed to undertake continuing studies of the effects of insecticides and pesticides, herbicides and related control chemicals upon fish and wildlife. Some 750 million pounds of pesticides are being produced in the United States each year and this total is only an estimated one-sixth of the amount needed. At least 220 new compounds have been produced recently and more appear almost daily,

It should be made clear that the National Wildlife Federation does not oppose chemical controls of destructive and harmful insects and weeds, providing attendant losses of fish and wildlife and other resources are not unreasonable. We do believe, however, that the public has the right to know what all the effects will be if these controls are used. Preliminary investigations show that losses of birds and animals, fish and other aquatic creatures and beneficial insects, to say nothing of possible detrimental effects upon humans, may be great enough to outweigh the apparent initial values of chemical controls.

Present levels of research are inadequate to screen these materials and learn their immediate and long-term effects upon fish and wildlife. An expanded twofold program is needed to cope with the problem. First, determinations should be made of acute and chronic toxicity levels and effects of the various chemicals upon reproductive capacities. Second, field appraisals of wide-scale applications are needed to explore possibilities of reducing damage through changes in materials and rates, methods, and times of treatment.

Sprays and dusts have not only killed insects but also destroyed both wild and domestic birds and animals. Aquatic life has been killed by poisons in water runoffs. The fire ant control program in the South, begun last year, has resulted in losses of fish and wildlife due to the application of heptachlor and dieldrin. Some 3,000 geese died in Oregon as they ate treated grain used in rodent control. Damage to fish in the Yellowstone River resulted when DDT was applied in a spruce budworm control program. Application of DDT on Long Island, N. Y., also resulted in a court case. There are more examples of mortality to creatures other than those which the chemicals are intended to control.

These are known, immediate losses. Only additional research can develop information on what long-range effects will be to wildlife, entire biological communities, and human populations. Potential dangers are evident in the fact that some of the chemicals are expected to have periods of residual effectiveness as high as 7 years. Some also have an accumulative effect in living organisms, including people.

In summation, the National Wildlife Federation believes Congress should initiate a continuing research program in this important field as provided by the measures now under consideration by the subcommittee.

Thank you, Mr. Chairman, for the opportunity of appearing here today.

Mr. BOYKIN. Thank you very much.

Are there any questions? If not, thank you, sir.

Are there any other witnesses, gentlemen?

STATEMENT OF DANIEL POOLE, WILDLIFE MANAGEMENT INSTITUTE

Mr. POOLE. Mr. Chairman, I am Daniel Poole, editor of the Outdoor News Bulletin, a news service of the Wildlife Management Institute. I wish to say merely that the institute is in fullhearted accord with the objectives of S. 2447 and H. R. 783.

With the committee's permission, I would like to introduce for the record an item entitled "Fire Ants Set Blaze." This pertains particularly to the fire-ant-control program from the Science News Letter for May 31, 1958.

Mr. BOYKIN. Without objection, so ordered.

(The document referred to follows:)

[From Science News Letter, May 31, 1958]

FIRE ANTS SET BLAZE

The problem of controlling the current invasion of the imported fire ant, a pest that is disrupting farming activities throughout the South, is being studied intensively.

The fire ant is setting conservationists, farmers, and health officers ablaze.

These recent developments point up the fire-ant problem that now involves 9 Southern States and more than 20 million acres:

1. Conservationists charge that treatment of infested areas with the insecticide, heptachlor, is causing widespread death to wildlife and may very well endanger humans.

2. Fire-ant bites are becoming a major health concern. The United States Public Health Service is planning to assign a biologist to the problem. At the same time, Tulane University scientists have undertaken a special study of the medical aspects of the fire ant.

3. The United States Fish and Wildlife Service is preparing a preliminary report on the effects of the insecticide war on wildlife populations.

The fire ant gained notoriety last year when the small pest with the big bite set the Nation's legislators aflame. It is an undesirable alien from South America that jumped ship in Mobile, Ala., 28 years ago and has spread throughout the Southlands since.

The fire ant is capable of killing small farm animals and making life generally miserable for farmworkers and others. When it bites, it feeds irritating fluid into the wound that causes festering sores. Persons can also react more violently to the bite.

The problem is not only a rural one. In New Orleans, for example, there are an estimated 1,000 fire-ant-bite cases reported each summer day.

In November 1957 the United States Department of Agriculture embarked on a control program. Since that time slightly more than 200,000 acres of infested land have been sprayed with either heptachlor or dieldrin, both of which have been effective in curbing the fire ant.

According to conservationists, however, heptachlor has also been effective in killing wildlife. Alabama conservationists report treated areas are literally rank with the stench of small game and birds dead from insecticide poisoning. They point out that humans who eat animals raised in areas where the insecticide has been used might also be endangered.

The conservationists are also worried about the residual effect of the insecticide sprays. They are concerned about the cumulative effect upon future wildlife populations.

The United States Fish and Wildlife Service is worried too. The Government conservationists have information on some cage tests, but little on field operations. They report they are aware of the threat to wildlife and are currently working with USDA to resolve the problem.

Still to be determined, they note, is what effect insecticide treatment of infested lands will have on the reproductive rate of wildlife. Laboratory tests show that some insecticides will cut down reproduction or result in crippled animals.

The United States Public Health Service is interested because heptachlor and dieldrin are highly toxic to fish and aquatic life.

Farmers are up in arms about the fire ant because it causes damage to their crops and livestock. Farm machinery often becomes damaged when passing over fire-ant mounds and farmworkers rebel when it comes to working in infested fields where they run the risk of being bitten by the pesty little ant.

Mr. POOLE. I believe that you asked Dr. Leedy and perhaps he has already provided you with a copy of the effects of the fire-ant eradication program on wildlife, a summary of information available, May 25, 1958. Thank you.

Mr. BOYKIN. Thank you.

Without objection, your statement may be received for the record.

(The statement referred to follows:)

STATEMENT OF DANIEL A. POOLE ON H. R. 783 AND S. 2447

Mr. Chairman, I am Daniel A. Poole, editor of the Outdoor News Bulletin, a conservation news service of the Wildlife Management Institute. The institute is one of the older national conservation organizations in this country, and its program has been continuous since 1911.

The conservation organizations are wholeheartedly in support of the objectives of H. R. 783, and its companion measure S. 2447. The use of chemical compounds for the control of unwanted insects and plants has increased markedly since World War II. The volume of chemicals used for control purposes in the United States in 1956 was 7 times greater than in 1940.

"Over $500 million worth of pesticides were produced for retail sale in the United States in 1956," the United States Fish and Wildlife Service reports in its new leaflet, Pesticides and Wildlife.

"Production by 1975 is expected to exceed $2 billion worth annually. Farmers bought 60 percent of the total in 1956, and the remainder, more than a half-billion pounds, was purchased for nonfarm use. Over 200 basic pesticides and more than 6,000 brand-named products now are on the market."

While I have not been able to determine the total acreage treated during a more recent year, the magnitude of the spraying is indicated by the fact that, in 1956, the Federal Government sponsored programs for the treatment of 65 million acres of cropland and 2 million acres of forest. Control programs of the Department of Agriculture last year accounted for the spraying of about 7 million acres for gypsy moths, spruce budworms, grasshoppers, Mediterranean fruitflies, and other insect pests.

We are using new and extremely potent chemical controls without knowing their far-reaching effects. Only limited tests are being made of the direct effects of these poisons on man and livestock. Practically nothing is being done to ascertain their effects on wildlife.

Most of the chemicals in use today were not on the market prior to World War II, and more than 60 new insecticides have been developed during the past few years. DDT was introduced first and still is being used widely. Some of the other formulations of the chlorinated hydrocarbon group, which are not as well known as DDT, are lindane, toxaphene, methoxychlor, heptachlor, dieldrin, and chlordane. These are not of equal toxicity, but they are similar in their chemical stability and resistance to change. Most retain their toxicity in soil for as long as 3 years after application. The chlorinated hydrocarbons pose the greatest known threat for wildlife of any of the poisonous chemicals on the market.

The second major group of insecticides is the organic phosphates. These chemicals also vary in toxicity, and some are extremely harmful to birds and mammals. Unlike the chlorinated hydrocarbons, the organic phosphates deteriorate and lose their toxicity relatively soon after application.

A factor that makes the use of chemical poisons hazardous to wildlife is the variety of responses produced on different animals. A poison that causes severe mortality among insects may or may not destroy fish and aquatic life or birds and mammals. There is a marked difference in response to pesticides, even among insects. "That is why it is important to be selective in choice of a pesticide," the Fish and Wildlife Service reports. "The fact that insects often react differently from birds and mammals also can be used to advantage. Mammals and birds respond in a roughly similar way, although there are some differences between kinds. Fish and other cold-blooded animals are closer to insects in their response, and are generally the most sensitive to insect-control agents."

The reaction of animal life to chemical poisons under all types of conditions is not well understood. The Fish and Wildlife Service has been able to work out the relative toxicity equivalents of about only 20 of the many chemical poisons now on the market. This initial work has made possible the writing of a few guidelines concerning the methods, times, and application rates for chemical poisons in order to avoid substantial kills of wildlife. But much remains to be done in that regard.

Chemical poisons have caused excessive mortality to fish and wildlife in some areas. Severe kills have been recorded in Alabama, Montana, Florida, New York, and other States. The extensive editorial coverage given mass poisoning cam-

paigns in the Nation's newspapers and magazines makes evident the broad public concern about the increased use of pesticides and herbicides.

The toxicity of some of the chemicals is amazing. For example, it has been reported by the Fish and Wildlife Service that "when aldrin is applied at the rate of 1 pound per acre, 1 square foot of ground surface will contain enough chemical to kill 2 adult quail, 20 young quail (2 weeks old), or 5 young pheasants, if it all is eaten.

"When dieldrin was fed to adult pheasants in very small quantities—one two-hundred-thousands of an ounce per day—for a 2-month period, they produced eggs of reduced hatchability and chicks subject to a high death rate."

Even though they were not fed poison, the chicks, when mature, had significantly reduced rates of reproduction. In another experiment, offspring of adult pheasants which had been exposed to DDT, also were given DDT and had no reproduction whatever.

Heptachlor now is being applied in at least nine southern States in a cooperative program with the Department of Agriculture for control of the imported fire ant at the rate of 2 pounds to the acre. This compound, like dieldrin, is at least 15 times as toxic to wildlife and fish as DDT. The cooperators hope to have a million of the 19 million acres of fire ant infested lands treated by early summer. A recent report of the Bureau of Sport Fisheries and Wildlife, dated May 25, divulges an alarming loss of fish, animal, and bird life in test plots following the prescribed fire-ant control treatment. A copy of that report is attached for the committee's information.

The susceptibility of aquatic life to dieldrin already has been demonstrated in the field. In 1955 a 2,000-acre coastal area of Florida was treated with dieldrin at the rate of 1 pound to the acre for control of sandfly larvae. The complete decimation of all fish life within the area following the aerial coverage is reported in the January 1958 issue of the Journal of Wildlife Management.

Early enactment of H. R. 783 and the appropriation of needed funds would set into motion basic research concerning the effect of these chemical poisons on wildlife. The best illustration of the inability of the Fish and Wildlife Service to cope with this pressing problem was the appropriation for research during fiscal year 1959. Only $74,500—$16,000 less than the preceding year—was appropriated for all kinds of investigations involving chemicals, diseases, parasites, and other factors affecting the welfare of wildlife.

The Service cannot do the job without adequate funds. It is behind in the testing of chemicals already on the market, and new poisons of even greater toxicity soon will appear. The search for more effective chemicals goes forward each day. Insect groups develop resistence to poisons, and some already are nearly a thousand times more resistant to DDT than their forebearers. Although the initial application of a poison on an insect population may have a devastating effect, the offspring of the survivors are more resistant.

The Fish and Wildlife Service simply must be enabled to conduct the basic research that is needed to reveal the true effects of those chemical poisons on fish and wildlife. The use of chemicals will continue to increase, and it is imperative that we broaden our knowledge so that fish and wildlife resources will not be decimated year after year by improper or untimely application of the chemical poisons. More than 25 million persons hunt and fish each year in the United States and, surely, the resources which affect so many people merit consideration.

Mr. BOYKIN. Are there any other witnesses?

STATEMENT OF KENNETH B. POMEROY, CHIEF FORESTER, THE AMERICAN FORESTRY ASSOCIATION

Mr. POMEROY. Mr. Chairman, I am Kenneth Pomeroy, the chief forester of the American Forestry Association. We are in wholehearted support of H. R. 783 and S. 2447.

I would like to make one additional comment after submitting this brief statement for the record. Silent saboteurs, as insects and disease are often known, cause a great deal of damage in the forest. For example, the chestnut blight has completely wiped out a very valuable species of tree. I bring that up merely to point up that the basic

problem is how to control insects and diseases in a way that is not harmful to fish, game, and human resources.

Thank you, sir.

Mr. BOYKIN. Are there any questions, gentlemen?

Thank you very much.

What trees were wiped out?

Mr. POMEROY. The chestnut tree, sir.

Mr. BOYKIN. What did that?

Mr. POMEROY. The chestnut blight, a disease.

Mr. DINGELL. You may shortly see the demise of the white pine, too.

Mr. POMEROY. That is possible, sir.

Mr. BOYKIN. Your statement will be included in the record, without objection.

(The statement referred to follows:)

STATEMENT WITH RESPECT TO H. R. 783 BY KENNETH B. POMEROY, CHIEF FORESTER, THE AMERICAN FORESTRY ASSOCIATION

Mr. Chairman, I am Kenneth B. Pomeroy, representing the American Forestry Association.

The American Forestry Association is strongly in favor of the proposal in H. R. 783 to intensify studies of the effects of insecticides, herbicides and fungicides. In addition we urge that the scope of this research be broadened to include the entire field of insect and disease control and to embrace all agencies with a responsibility for any phase of this vital work.

The entire subject is one of grave importance. Its urgency cannot be minimized. Not only is it necessary to determine the effect of various chemicals upon fish and wildlife, but it is necessary to control destructive insects and diseases. Otherwise, the forests that provide a haven for wildlife as well as protection for the headwaters of streams will in themselves be destroyed.

Mr. BOYKIN. Are there any other witnesses?

Are there any other statements?

Gentlemen, thank you very much for coming. We appreciate your coming. We are sorry to have been late.

We will go to executive session.

(Whereupon, at 11:30 a. m., the committee proceeded to executive session.)

(The following was furnished for insertion:)

NATIONAL FISHERIES INSTITUTE, INC.,
Washington, D. C., June 24, 1958.

Hon. HERBERT C. BONNER,
Chairman, House Committee on Merchant Marine and Fisheries,
Old House Office Building, Washington, D. C.

DEAR CONGRESSMAN BONNER: We understand your committee will start hearings June 25 on S. 2447, H. R. 783, and similar bills which would authorize and direct the Secretary of the Interior to undertake studies of the effects of insecticides, herbicides, and fungicides upon fish and wildlife resources.

On April 23, 1958, our membership unanimously adopted the enclosed resolution, and we would appreciate your including this resolution and our letter as part of the record of your hearings.

All segments of the fish and shellfish industry are becoming alarmed over the ever-increasing indications from Federal, State, and private research sources that many insecticides, herbicides, and fungicides now in use are destroying our fishery resources. It is essential that adequate basic data become available promptly to the end that necessary controls can be put into force to prevent this useless destruction of vital natural resources urgently needed by mankind. The use of chemicals in spraying forests, crops, and marshes for control of insects has become so widespread that the Nation faces losses of protein food that it can ill afford.

We regard this legislation as an emergency measure and sincerely hope Congress will adopt the legislation promptly and follow with adequate appropriations to get the work underway.

Very truly yours,

MAL XAVIER,
Acting General Manager.

RESOLUTION 7

Whereas S. 2447, H. R. 783, and other similar bills pending before the present session of Congress would authorize and direct the Secretary of the Interior to undertake continuing studies of the effects of insecticides, herbicides, and fungicides upon fish and wildlife for the purpose of preventing losses of those invaluable natural resources following spraying and would provide basic data on the various chemical controls so that forests, croplands, and marshes can be sprayed with minimum losses of fish and wildlife; and

Whereas the fishing industry of the United States is very much concerned with the possible destruction of fish and shellfish and other forms of marine life by the continued use of certain chemicals: Now, therefore, be it

Resolved, That the National Fisheries Institute, Inc., in convention assembled at San Francisco, Calif., on this 23d day of April 1958, recommend the prompt adoption of this legislation.

NATIONAL PARKS ASSOCIATION,
Washington, D. C., June 25, 1958.

Hon. FRANK W. BOYKIN,
Chairman, Subcommittee on Fisheries and Wildlife,
House of Representatives, Washington, D. C.

DEAR REPRESENTATIVE BOYKIN: H. R. 783 would provide funds for studies of the effects on fish and wildlife resources of the present widespread use of chemical insecticides and pesticides. The dangers inherent in employing the powerful poisons of today without thorough knowledge of what the results will be on all forms of life, not solely the species under attack, are so great as to make such studies imperative. As guardian of the health and welfare of the American people, and as administrator of large acreages of public land, the Congress rightly is concerning itself with this problem. This legislation should be enacted promptly. Its only defect is that it provides far too little money for the purpose. The $280,000 recommended should be multiplied to 10 times that amount for immediate use; and even that will not be sufficient to provide all the facts needed.

There has been done a moderate amount of research on the effects of DDT on wildlife and human populations, and it has been demonstrated that great care must be taken to avoid concentrations of DDT which will prove lethal to many fish, birds, and other animals. On one occasion, I picked up more than 800 dead and dying birds, ranging in size from sandpipers to egrets, which had been subjected to DDT spraying over a lagoon near the naval air station at Corpus Christi, and autopsy by the chief medical officer proved DDT to be the cause of their deaths. Others have reported countless other similar instances. Yet DDT is but a mild poison compared with the more potent chemicals now being used to destroy fire ants and other insects on agricultural and forest lands. They are so powerful, in fact, that scientists are seriously alarmed lest the soil microbiota—the tiny organisms that give life to the soil and on which all crop production depends—be destroyed with resultant sterilization of the soil itself. Should this fear be justified, the use of such chemicals could doom the very agricultural economy they are designed to benefit.

This is a worldwide problem. America has produced these chemicals, and they are in use throughout the world. As has been true of certain other American contributions to world conditions, this one may prove in the end to have been an unfortunate blessing. The International Union for the Conservation of Nature and Natural Resources has held several international conferences at which scientists from more than 30 nations have discussed this subject. These outstanding authorities have presented documentation about what chemical poisons, mainly DDT, have done to the wildlife in their own countries—in France, in Canada, in the Belgion Congo and French West Africa, in Great Britain, and in many other lands. They are decidedly worried.

Since the technique of using chemical poisons has been a contribution of the United States to the agricultural and forest practices of the world, it seems

proper that the United States should undertake a reasonable measure of research to find out what the results have been and will be. These chemicals are already in use; the places they are being applied are natural laboratories in which to determine the essential facts. Whenever a major program is undertaken which involves use of such chemicals on a large area, part of the funds so expended should be allocated to appraising the results, not only as relates to the target insect, but on all other living organisms, including man, which occupy the region. It is not enough to send a single biologist there part of the time. The study should be thorough and complete, so the end results will have significance. The problem is too serious and the danger too imminent to permit of delay. H. R. 783 should be enacted now, before the damage assumes proportions beyond control.

Yours sincerely,

FRED M. PACKARD,
Executive Secretary.

THE IZAAK WALTON LEAGUE OF AMERICA, INC.,
Washington, D. C., June 26, 1958.

Hon. FRANK W. BOYKIN,
Chairman, Subcommittee on Fisheries and Wildlife,
House of Representatives, Washington, D. C.

DEAR MR. BOYKIN: The Izaak Walton League of America is a national membership organization dedicated to the conservation and wise use of America's soil, woods, waters, and wildlife. The league has a deep interest in the legislation now before you—identical bills, S. 2447 and H. R. 783.

This legislation would authorize and direct the Secretary of the Interior to undertake continuing studies of the effects of pesticides upon fish and wildlife for the purpose of preventing losses of these resources following spraying, and to seek basic data on chemical controls leading to their use with minimum detriment to fish and wildlife.

There has been very rapid development of new lethal chemical sprays during and since the war. This has been accompanied by a vast increase in their use to control a wide variety of pests, with increasing millions of acres being sprayed each year.

This development, however, has in no way been matched by research to determine the collateral effects of widespread spraying on fish and wildlife. There have been severe and spectacular instances of fish and wildlife kills following spraying. Such dramatic cases draw immediate attention and quick effort to prevent reoccurrence. Perhaps of far more importance in the long run will be the cumulative effects in wildlife species, deterioration of reproductive vigor, or in ability to withstand natural predation and other environmental controls. Heptachlor, we understand, 15 times more toxic than DDT, retains its toxicity in the soil for 3 years—perhaps 10.

Answers to such questions will be found only after patient and continuing basic research, of which there is little or none at the present time.

Science will continue its discovery of more powerful chemicals and we can anticipate that they will be applied on a broader scale year after year. The facts as they are known all point to the need for expanded research. The legislation before your committee would provide an important step in that direction. Consequently its purposes and objectives are heartily endorsed by the Izaak Walton League.

As a matter of general interest, we are attaching a marked copy of the June issue of the league's publication, Outdoor America, which features an article on the great chemical threat to fish, wildlife, and to man himself.

Respectfully,

J. W. PENFOLD,
Conservation Director.

IZAAK WALTON LEAGUE OF AMERICA, INC.,
MARYLAND STATE DIVISION,
Silver Spring, Md., June 27, 1958.

Hon. HERBERT C. BONNER,
Chairman, Committee on Merchant Marine and Fisheries,
House Office Building, Washington, D. C.

DEAR CONGRESSMAN BONNER: The Maryland State Division of the Izaak Walton League of America, representing members of the individual league chapters

throughout our State, are hopeful that your committee will give prompt and favorable consideration to S. 2447 and H. R. 783 that would authorize and direct the Secretary of the Interior to undertake continuing studies of the effects of insecticides, herbicides, fungicides, and other chemicals on fish and wildlife.

The findings of the Bureau of Sport Fisheries and Wildlife concerning the alarming loss of those irreplaceable resources following treatment for the control of imported fire ants in some parts of the South emphasize the need for basic research. Guidelines must be developed so that only minimum loss of fish and game will result from the use of economic poisons for the control of undesirable insect and plant pests.

I would appreciate having this letter made part of the hearing record.

Sincerely,

EDWIN S. TURNER, *President.*

LOS ANGELES, CALIF., *May 9, 1958.*

Hon. JAMES ROOSEVELT,
House Office Building,
Washington, D. C.

DEAR MR. ROOSEVELT: May I express my approval of H. R. 783, which would authorize continuing studies of the effects of the various types of sprays used on croplands, forests, and marshes.

May I also express my disapproval of the repeated sprayings given New England farmlands last year to prevent the spread of a practically nonexistent gypsy moth infestation and which resulted in damage to crops and livestock as well as to fish and wildlife.

Please do all you can to further the passage of the above-mentioned bill.

Would you please have this letter included in the record of the public hearing on this matter?

Respectfully yours,

Miss ESTHER JOHNSON.

MISCELLANEOUS FISH AND WILDLIFE BILLS

WEDNESDAY, AUGUST 6, 1958

HOUSE OF REPRESENTATIVES,
MERCHANT MARINE AND FISHERIES COMMITTEE,
Washington, D. C.

The committee met at 10 a. m., in room 219, Old House Office Building, Washington, D. C., Hon. Herbert C. Bonner (chairman), presiding.

The CHAIRMAN. H. R. 13613, the dogfish bill, will be next.

(H. R. 13613 follows:)

[H. R. 13613, 85th Cong., 2d sess.]

A BILL To provide for the payment of bounties on dogfish sharks to control the depredations of this species on the fisheries of the Pacific coast

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order to aid in the rehabilitation of the salmon and other fisheries of the Pacific coast, the Secretary of the Interior is authorized to establish areas along the Pacific coast in which depredations of dogfish sharks occur, and to provide for the payment of bounties for the control of such dogfish sharks as hereinafter provided.

SEC. 2. (a) In the areas established pursuant to the first section of this Act, the Secretary of the Interior shall pay a bounty of $10 a ton for unlivered dogfish sharks, or ten cents a pound for dogfish shark livers.

(b) The payments made under subsection (a) of this section shall be made to domestic fish producers or otherwise as the Secretary of the Interior shall determine.

SEC. 3. There are hereby authorized to be appropriated such sums as may be necessary to carry out the provisions of this Act.

The CHAIRMAN. Is the Bureau of Commercial Fisheries represented here? Please take the chair. Statements of Congressman Magnuson, Congressman Westland, and Congressman Mack will be made part of the record.

(The statements of Congressmen Magnuson, Westland, and Mack follow:)

STATEMENT OF SENATOR WARREN G. MAGNUSON IN SUPPORT OF S. 2719

The purpose of the bill is to control the predatory dogfish sharks. This is to be accomplished by paying fishermen $10 per ton for unlivered dogfish sharks, or 10 cents a pound for dogfish-shark livers. These payments are to be made to domestic fish producers or otherwise as the Secretary of the Interior shall determine.

This bill is an attempt to reestablish the balance of nature intended between food, sports fish, and a major predator. In recent years, dogfish sharks have increased tremendously in numbers and have increased out of all proportion in their relation to food and game fish, whose numbers have been decreased by the inroads of industrial development.

Unless a natural balance is restored, depletion of our food fish will ultimately result. The diet of the dogfish shark consists principally of such fish as young salmon, bottom fish, sole, cod, and crabs.

There is little purpose in maintaining fish hatcheries and having more and more of the escaping fry consumed on their way to the sea. These dogfish sharks infest waters from the State of Oregon to the southeastern shores of the State of Alaska. This is the area of our great salmon migration for the entire Pacific, the home of the Dungeness crab and our North Pacific bottom-fish industry.

S. 2719, in its original form, would have provided bounties of $10 per ton for unlivered dogfish sharks, 10 cents per pound for dogfish-shark livers, $20 per ton for lamprey eels, and $40 per ton for hair seals and sea lions. In this form, the bill was objected to by Assistant Secretary of the Interior Ross Leffler. Regarding dogfish sharks, however, he advised:

"With respect to dogfish sharks, it is my understanding that they are a problem of considerable proportion to the fishermen in the State of Washington, particularly in Puget Sound. You are quite right in assuming that they can best be taken by fishermen. In fact, I doubt there is any other way in which they could be taken successfully."

Pacific-coast trawl vessels are hampered in their operating by hordes of dogfish sharks. At times, the major portion of their drag will consist of these valueless pests which now are only thrown back into the sea. Trollers and sportsmen have been forced to abandon historic fishing areas that have been plagued with these fish. The loss of gear attributable to dogfish sharks amounts to thousands of dollars yearly because of the unwelcome capture of nets full of the predator. Our fishermen are anxious to get on with the drive to eliminate them from once valuable fishing areas, and the income from the proposed bounties will mean a great deal to an important industry, which is now in a depressed condition.

There is now a limited market for dogfish-shark livers, at from 8 to 12 cents a pound. The addition of 10 cents per pound bounty would provide sufficient incentive to increase the number of vessels operating on dogfish manyfold. This will encourage the processors and manufacturers of fish byproducts to enlarge and modernize their plants. Unlivered dofish sharks will be used for fertilizer and for pet food.

Prior to the importation of low-cost vitamin oil and the synthesis of vitamin A, the value of dogfish liver to the commercial fisherman during the peak years, 1940–43, ranged from 5 cents in June 1940 to a top of 54 cents per pound in August of 1943. This rapid increase in price logically brought about a comparable increase in fishing effort on the dogfish stocks during these years, resulting in landings, in the State of Washington alone, of roughly 2 million pounds of liver, or an approximate production of about 20 million pounds of round dogfish. This production in 1957 amounted to only 1,372,014 pounds. Obviously, the reduction in catch from near 20 million pounds in 1942 to just over a million pounds last year, has caused a tremendous increase in stocks of fish.

On the basis of last year's catch, this bill would result in bounty payments of approximately $138,000. On the other hand, the best estimate your committee received indicated that dogfish sharks consume 5 times their weight in food fish per year, with a value of over 10 times the cost of the bounty involved.

The enactment of the bill will do a great deal for the preservation of the Pacific-coast fisheries.

STATEMENT OF CONGRESSMAN JACK WESTLAND, SECOND DISTRICT OF WASHINGTON

Mr. Chairman, I am appearing before this committee in support of my bill, H. R. 13612, which would provide payment of bounties on dogfish shark. This shark is a serious problem for commercial fishermen and sports fishermen of Puget Sound and the Pacific Northwest, as well as for fishermen as far away as California and Alaska.

I have offered this bill because I believe it is a practical method of controlling this common predator, which consumes as much as 20 times its own weight annually. My bill would encourage fishermen to take dogfish commercially, and thus reestablish the balance of nature that once existed. My bill would authorize the Secretary of Interior to pay a bounty of $10 a ton for unlivered dogfish shark or 10 cents a pound for dogfish-shark livers. This is just a practical way of controlling a predator that threatens to destroy our important salmon runs.

The numbers and weight of dogfish in fishing grounds off northwest Washington and in Puget Sound have reached tremendous proportions in the past few years. A conservative estimate of the total weight of these fish exceeds 1 million tons. It is easy to understand the concern of our fishing industry with this

problem when you learn that more than 20 million tons of salmon, bottom fish, and crab could be destroyed annually by this predator.

At one time, the dogfish was taken for its liver, an excellent source for vitamin A. In fact, as much as 135 million pounds of dogfish were landed annually before 1949. This catch held the fish in check, but in 1950 the market for dogfish livers became virtually nonexistent because of low-priced, synthetic vitamin A compounds. The near absence of the fishery since 1950 has allowed the dogfish population to greatly increase in numbers.

The population is so great that fishermen of the coast of Washington State have had their costly gear disappear in the sea overloaded with dogfish shark. Purse seiners and gill netters, alike, have reported they were unable to haul their nets into their boats because of the overwhelming number of dogfish in their catch. Much damage is caused by the abrasive nature of the skin of dogfish and the difficulty in bringing these pests aboard.

I also would like to point out that salmon and other commercial fish have to compete with the dogfish shark for available feed and may, at times, abandon the better fishing grounds.

I have mentioned the effect of this pest on commercial fisheries. Now, I would like to point out the effect of dogfish on sports fishing. Thousands of anglers visit my district and the Puget Sound region annually. Poor fishing caused by these predators means potential reduction in income for resort and boathouse owners. Hundreds of enterprising boathouse and resort owners owe their livelihood to sports fishermen who depend on them for bait, accommodations, food, tackle, and boats. These fishermen will not return to areas where dogfish have depleted the salmon run.

Mr. Chairman, I want to thank you and this committee for allowing me to appear in support of this legislation, and I sincerely hope it will be reported to the House for early action.

STATEMENT OF REPRESENTATIVE RUSSELL V. MACK, OF WASHINGTON

Mr. Chairman and members of the committee, I thank you for this opportunity to appear before your committee to urge your approval of legislation to pay a bounty of $10 a ton on dogfish shark which during recent years have multiplied so enormously as to become a great menace to the salmon and other commercial and sports fish and to the crabbing industries. Dogfish shark are predatory. They live upon salmon and other fish and crab, especially the small ones, and consume enormous numbers of commercial and sports fish each year.

The menace of these predatory shark is especially great and growing in the waters of the North Pacific—the Columbia River, Grays Harbor, Willapa Harbor, and Puget Sound—and also, I am told, in the waters along the New England coast. Also, these shark often foul and destroy fishing gear.

The great damage being done the commercial and sports fish by these predatory dogfish shark certainly suggests that the menace be brought under control to preserve the commercial and sports fish in our North Pacific and New England waters.

I have introduced a bill which proposes that the Federal Government pay a $10-a-ton bounty on dogfish shark.

In 1944, shark livers were in great demand as a source of vitamin A, and fishermen sought them with great zeal. In that year, 23,000 tons of these dogfish shark were taken in western waters. Since that time, however, synthetic sources for vitamin A have been discovered, and the demand for shark livers so lessened that it is scarcely profitable for fishermen to fish for these predatory dogfish shark. Since dogfish-shark fishing has been largely abandoned, the annual take has greatly decreased and dogfish shark have multiplied enormously, with the result that the menace of these predatory fish to the commercial and sports fish has multiplied manyfold.

If my bill is enacted into law and increases the dogfish shark take by fishermen to that of the highest year of record—23,000 tons in 1944—the total cost of the bill would be only $230,000.

Since each dogfish shark each year eats many times its own weight of commercial and sports fish, the saving of edible fish easily will have a value of many millions of dollars annually. The small sum paid out in bounties for the destruction of these predatory fish will prove a most profitable investment.

I hope your committee will approve one of the several bills now pending to pay a bounty on dogfish shark, and that the bill you approve will be passed at this session of Congress.

STATEMENT OF RALPH C. BAKER, CHIEF, DIVISION OF RESOURCE MANAGEMENT, BUREAU OF COMMERCIAL FISHERIES, DEPARTMENT OF THE INTERIOR

Mr. BAKER. My name is Ralph C. Baker, Chief, Division of Resource Management, Bureau of Commercial Fisheries, United States Department of the Interior.

Mr. Chairman, I regret very much that the Director and Assistant Director of the Bureau are out of town and unable to appear before this committee. The Department has not submitted a report on any of the recent bills introduced on the subject of dogfish predation, so I am unable to speak for the Department insofar as a position on this particular legislation is concerned. The Department did submit an adverse report on an earlier bill, S. 2719, which had for its purpose the control of dogfish, as well as other predators, through a bounty system. While I cannot speak for the Department on this legislation, I would be glad to attempt to answer any questions that the committee may have.

Mr. TOLLEFSON. Mr. Baker, are you familiar with the predations of the dogfish with the increase in the number of dogfish in the Pacific coastal waters, and especially the Alaskan and Washington, and Oregon waters?

Mr. BAKER. Yes, sir. The abundance of this species has increased very substantially within the past 7 years. During the early 1940's, there was a substantial fishery for dogfish because of the value of its liver as a source of vitamin A. The landings of this species in Oregon and Washington reached a peak in 1944 of some 45 million pounds.

However, in about 1948 or 1949, vitamin A was synthesized; they produced synthetic vitamin A much less expensively than it could be extracted from dogfish livers.

Mr. RIVERS. Is the synthesized vitamin A equally as healthful?

Mr. BAKER. To the best of my knowledge, it is, sir. The fishery for dogfish fell off very rapidly after that point and declined from a high of 45 million pounds in 1944 to virtually nothing in recent years. Since 1949, the landings have been inconsequential.

Mr. TOLLEFSON. In other words, as long as dogfish livers could be and were used for vitamins the fishermen deliberately attempted to catch dogfish?

Mr. BAKER. That is right.

Mr. TOLLEFSON. Because of their fishing effort for dogfish, they kept the amount of dogfish down?

Mr. BAKER. Yes.

Mr. TOLLEFSON. Now, do I understand from your testimony when they began manufacturing synthetic vitamins the fishermen no longer sought to catch dogfish and, as a consequence, the numbers have increased terrifically?

Mr. BAKER. That is right.

Mr. TOLLEFSON. They are a predator, are they not?

Mr. BAKER. To some degree, they are predators. That is, they do eat substantial quantities of herring. However, they also eat very substantial quantities of other species of no commercial value. A study of this subject in 1941 in the Pacific Northwest revealed that for 1,100 specimen dogfish the stomach contents by volume consisted of 20

percent ratfish, which has no commercial value to my knowledge, 18 percent herring, and 9 percent euphausiids, a shrimplike creature.

Mr. DINGELL. Does it have commercial value?

Mr. BAKER. No, sir. It is a food organism, however, that is used extensively by salmon and other commercial species. So, to the extent that dogfish eat euphausiids, they are competitors with desirable species. Other elements in their diet included crabs, shrimp, octopus.

The CHAIRMAN. What percentage were crabs?

Mr. BAKER. Twenty percent ratfish, 18 percent herring, 9 percent euphausiids, and then the balance was made up of a great many species, including crabs, shrimp, octopus, squid, and so forth.

Mr. DINGELL. Was there any salmon in that?

Mr. BAKER. There was, I believe, some evidence of salmon smolt. However, that was very slight.

Mr. DINGELL. Smoked salmon?

Mr. BAKER. Smolt, s-m-o-l-t, the young salmon.

Mr. DINGELL. How much salmon?

Mr. BAKER. Relatively little in the studies that I am acquainted with, mostly salmon fingerlings. Generally speaking, the dogfish has a rather indiscriminate taste, and will feed on whatever happens to be available. In areas where herring are quite numerous, they feed very extensively on herring.

Mr. MILLER. That is not the thing that is characteristic of dogfish alone; it is characteristic of all fish.

Mr. BAKER. That is right.

Mr. MILLER. Taking him out of the ocean does not necessarily mean the species will be protected?

Mr. BAKER. That is right, and, to the extent dogfish may prey on other competitors of desirable species, to that extent they are offsetting the damage they do.

Mr. TOLLEFSON. What effect has the increased numbers of dogfish had upon commercial fisheries and sports fisheries of salmon especially, if you know?

Mr. BAKER. It is rather difficult to relate definitely the increase in the dogfish population to declines in the other species.

Mr. TOLLEFSON. I am talking about the effect upon the fishermen.

Mr. BAKER. Primarily, I think, the increase in the abundance of dogfish has had a nuisance value to the fishermen. They have found their nets clogged with these useless dogfish and, in the same way, the sportsmen have complained that frequently their lure or bait is taken rapidly by dogfish and that it is a nuisance also to the sport fishermen.

Mr. TOLLEFSON. Is it not true that damage has been done to the fishing effort on the part of the fishermen?

Mr. BAKER. There certainly has been, from reports we have received, damage to fishing gear, to the nets, just because of the rough, abrasive skin of the dogfish.

Mr. TOLLEFSON. According to statements which I have seen, the commercial fishermen will often get a net full of dogfish so large that they cannot even hoist it aboard.

Mr. BAKER. I have heard similar reports, sir. This occurs at particular times of the year and in specific areas.

Mr. TOLLEFSON. Is the abundance of the dogfish a matter of concern to all commercial fishermen and to all sports fishermen out on the Pacific coast?

Mr. BAKER. I have heard very little complaint insofar as Alaska is concerned. They do occur there to some degree, particularly in southeastern Alaska. They are definitely a problem insofar as the British Columbia fishermen are concerned. Quantities of them are taken by commercial fishermen of Oregon and northern California, I believe, although we have had relatively few reports from Oregon and California as to the nuisance factor here.

Mr. TOLLEFSON. What about the State of Washington?

Mr. BAKER. We have had a good many reports there, again primarily on the basis of the nuisance that the dogfish creates in the large numbers that now exist.

Mr. TOLLEFSON. Is it not a fact that the commercial fishermen cannot fish areas which they formerly fished for salmon because of the great abundance of dogfish?

Mr. BAKER. I have heard such reports, sir.

Mr. TOLLEFSON. Have you heard from the director of fisheries of the State of Washington with regard to this matter?

Mr. BAKER. Yes; I believe we have, sir; not recently, but I believe we have had correspondence from him in months past.

Mr. TOLLEFSON. Did you appear before the Senate committee on this matter?

Mr. BAKER. No, sir.

Mr. TOLLEFSON. Did somebody from your Department appear?

Mr. BAKER. Yes, sir; the Director, Mr. McKernan, appeared before the committee.

Mr. TOLLEFSON. The Senate, of course, has approved this measure, has it not?

Mr. BAKER. That is my understanding, sir.

Mr. TOLLEFSON. As I understood your testimony, the Department's report was adverse, as far as the original bill was concerned.

Mr. BAKER. Yes, sir.

Mr. TOLLEFSON. But it has not made a report on this one?

Mr. BAKER. That is right, sir.

Mr. TOLLEFSON. No further questions.

Mr. RIVERS. You are testifying now on your own, and not representing the Department?

Mr. BAKER. That is correct.

Mr. RIVERS. On your own, what do you think about it?

Mr. BAKER. Certainly, I can agree that the dogfish is a nuisance: that, to some extent, perhaps, as with other species, they do prey on desirable species. I think probably they could be reduced only through taking by commercial fishing gear.

We have had very unfavorable experience through the years with the payment of bounties on pest species. Normally, that boils down to a payment for the harvesting of the pest species only to the extent that it can be taken in substantial quantities.

Mr. RIVERS. So, you do not favor this bill?

Mr. BAKER. Personally, I do not.

Mr. RIVERS. You do not think it would render any assistance to the people who are complaining?

Mr. BAKER. It is a little difficult for me to say, sir, because it is a little difficult for me to picture how a bounty system might actually work out, in practice, on dogfish. I think it would be an endless proposition.

Mr. RIVERS. They would have them piled up on the docks, with nobody to eat them or use them?

Mr. BAKER. That is right.

Mr. RIVERS. And the bounty would keep on getting bigger and bigger; is that your position?

Mr. BAKER. Yes, sir; we have felt the Federal Government could do more in the solution of this problem through our technological studies, through developing a means of utilizing dogfish. Our Laboratory in Seattle presently is making a thorough search of all literature on the subject.

Mr. RIVERS. Teaching them birth control?

Mr. BAKER. Perhaps not quite as simple as that, sir, but by developing uses for dogfish, as pet food or as fishmeal, or perhaps, as a food for furred animals. The prospects here, we must concede, are not real encouraging, but there is the possibility in that direction.

Mr. RIVERS. Whenever you find that some of these nets contain 30,000 pounds of these things, that is a problem.

Mr. BAKER. It is, indeed.

Mr. PELLY. I think you have given the inference that you have a research project, whereas, in fact, is it not true that it is all in your mind that you plan sometimes, maybe, to try to work out a program to utilize dogfish in pet food but, actually, all you are doing is planning to get some literature from certain sources and assemble it, but you do not intend to put down in the record, do you, that actually there is any research in Seattle or anyplace else toward the eradication of dogfish?

Mr. BAKER. It is my understanding, sir, that the Seattle Technological Laboratory of the Bureau presently is making a survey of all available literature on the subject.

Mr. PELLY. I have a letter from the Department which indicated that you had a project, and that is why I asked the question, to be specific. I have a letter from Acting Director A. W. Anderson, which says:

> * * * Necessary preliminary plans involve (1) a literature search of all previous investigations into the utilization of members of the elasmobranch family, especially the dogfish; (2) development of a research plan to test the feasibility of application of the most promising techniques to the west-coast dogfish problem.

As I understand that, there is nothing in the way of a practical program to utilize dogfish, presently. It is all in somebody's mind?

Mr. BAKER. Nothing more, certainly, than a search or review of all the literature.

Mr. PELLY. I think you have good intentions, but I do not think anything has been done about it.

Mr. BAKER. Certainly in the way of an action program.

Mr. MILLER. Will the gentleman yield?

Mr. PELLY. Yes.

Mr. MILLER. As a preliminary to anything they do, I think we could be very critical of them if they did not make a very thorough search of all of the literature to make sure they do not duplicate work that has been done.

I think that in any research problem, that is always the first step, is it not?

Mr. PELLY. They do not have any money. I did not go on to read——

Mr. MILLER. That is not our fault.

I am going to make some observations when it comes to my turn about the predators of the sea.

Mr. TOLLEFSON. Do you agree with your superior? I thought I heard you say that the only way of contending with the problem is for the commercial fishermen to take them and until your research is fruitful the stocks of dogfish will increase. The problem will get worse until you have found some way of contending with it. In the meantime, the only way to contend with it is for commercial fishermen to take it.

Mr. BAKER. Certainly, the only way for taking large quantities of dogfish appears to be through the use of regular commercial fishing gear.

The CHAIRMAN. You have the unlivered dogfish and then the dogfish goes for 10 cents a pound or the same for shark livers.

Did you ever have a program, by the way?

Mr. BAKER. No, sir.

The CHAIRMAN. You have never had a program?

Mr. BAKER. No, sir.

The CHAIRMAN. What would you do with these dogfish if this program were put into effect?

Mr. BAKER. The dogfish liver might still be utilized, I presume, with a subsidy as a source of vitamin A.

The CHAIRMAN. I mean, if the bounty is 10 cents a pound for the livers, what could you get for the livers? What would you do with them?

Mr. BAKER. Livers could be processed by means that were used some years ago.

The CHAIRMAN. I am not talking about "could be."

Is there any place that you have utilized them? I am just trying to get the witness to tell me just what the Department would do with a bill like this.

For instance, in the case of the whole dogfish, the utilization is for fertilizer?

Mr. BAKER. It has not been utilized through a reduction operation, as I understand it, because of the very low protein value of dogfish meal, and also because it is rather difficult to handle in a reduction operation. It tends to be of a rather gluey consistency and far less valuable commercially than, let us say, herring meal or other types of fishmeal.

The last time, to my knowledge, that liver oil was sold was in 1955 at which time it brought about $2 a gallon.

The CHAIRMAN. What does it bring a pound for livers?

Mr. BAKER. That could be worked out, sir. I do not have the exact data.

The CHAIRMAN. You have had this bill up there, have you not? If the bill became a law, what would you do with this product?

Mr. BAKER. I presume it might be handled in a number of ways, either through a payment to a processing plant which, in return, might be passed on to the fishermen, or perhaps through a direct payment to the fishermen.

The CHAIRMAN. You understand what I am trying to ascertain.

How would you dispose of the fish if this bill became law?

Mr. BAKER. The provisions of the bill do leave that pretty much up to the Secretary. One of the difficulties with any bounty payment program is the problem of administration. We have not developed any specific plans as to how this might be administered.

Mr. TOLLEFSON. Would the chairman yield there a moment?

The CHAIRMAN. Yes.

Mr. TOLLEFSON. The Department is not envisioning buying dogfish liver, is it? This bill just provides for a bounty and then the fishermen can dispose of the dogfish and livers as they please?

Mr. BAKER. I think that is certainly intended.

Mr. TOLLEFSON. There is no problem for the Department other than the payment of the bounty?

Mr. BAKER. I think the bill specifies that the payments be made to domestic fish producers or otherwise as the Secretary might determine.

The CHAIRMAN. How would you determine that you had not previously paid a bounty on some of the fish?

Mr. BAKER. The administrative procedure would have to be such that you definitely would make the payment only once. As I understand the provisions of the bill, they provide for a $10 a ton payment for unlivered dogfish sharks, or 10 cents a pound for dogfish-shark livers. I think the language is a little difficult in reference to unlivered fish.

The CHAIRMAN. That means a dogfish with the liver in it?

Mr. BAKER. That is my understanding of it. It would be for fish in the round.

The CHAIRMAN. Ten cents a pound for the livers?

Mr. BAKER. Yes.

The CHAIRMAN. Have you had any experience with this business at all?

Mr. BAKER. With the dogfish liver?

The CHAIRMAN. Bounties of this kind?

Mr. BAKER. Yes, sir; to some extent we were in a trout bounty program in the 1930's in Alaska whereby the industry and the Territorial government put up matching funds for a payment of 2.5 cents for each Dolly Varden trout taken in Alaska. The administration of that program was handled by the Bureau of Fisheries.

The CHAIRMAN. What did you do with the trout?

Mr. BAKER. The trout were destroyed. The tails were submitted for bounty payment.

Mr. DINGELL. Do you have as many Dolly Varden trout in Alaska now as you did then?

Mr. BAKER. Yes, sir.

The CHAIRMAN. What is the estimated cost of this?

Mr. BAKER. Based on the landings in Oregon and Washington in the early 1940's, it appears very likely the fishery might sustain an average annual yield of perhaps 15,000 tons. At $10 a ton for the unlivered dogfish and that would be $150,000 a year. Assuming that the bounty payments were made instead on the livers, it could very well be about twice that amount.

The CHAIRMAN. $300,000 a year for livers and $150,000 a year for fish?

Mr. BAKER. Approximately, sir.

Mr. TOLLEFSON. Mr. Chairman, I think the witness is confused. This language in the bill to me is very simple.

The fishermen can either take $10 a ton for the dogfish or 10 cents a pound for the liver, whichever they want?

Mr. BAKER. Yes, sir.

Mr. TOLLEFSON. You would not add the two costs together? It would be one or the other?

Mr. BAKER. I intended to specify that, sir, that it would be approximately $150,000 a year at $10 a ton for the unlivered dogfish or, roughly, $300,000 a year for the payment of 10 cents per pound for the livers. This computation is based on a maximum sustainable yield.

The CHAIRMAN. You mean that would be a continuous yearly expenditure?

Mr. BAKER. Yes, sir.

The CHAIRMAN. It would not be reduced at all?

Mr. BAKER. At that rate of catch, 15,000 tons annually, there would be no decrease in the population based on the commercial fishery figures that we have for the early 1940's.

The CHAIRMAN. What would be the profit to the fishermen that went into this?

Mr. BAKER. That would be rather difficult for me to determine, sir, not knowing what their cost of operation might be.

Mr. MILLER. Would the gentleman yield?

The CHAIRMAN. Yes.

Mr. MILLER. That 15,000 tons was landed where?

Mr. BAKER. This is based, sir, on the figures that we have for landings of dogfish during the period when the fishery was in progress.

Mr. MILLER. In the Northwest?

Mr. BAKER. Yes, sir.

Mr. MILLER. What were the landings when it was very profitable to fish for dogfish shark in California waters? Do you have that?

Mr. BAKER. I have no figures on the California fishery.

I do have some figures on the volume of——

Mr. MILLER. You know that during the 1940's when shark livers were in high demand for vitamin oil, people were being sold shark oil as the Geritol of the day and that there were landings in Eureka on south and in Oregon.

Mr. BAKER. Yes, sir; I have a record of some 6,000——

Mr. RIVERS. Hadacol yesterday.

Mr. MILLER. Hadacol, then.

Mr. BAKER. I have a record here, sir, of some 6,000 pounds of dogfish livers landed in California in 1944. That was about the peak year of the fishery in Washington State and British Columbia. I assume that would be indicative of the quantities landed in California.

Mr. MILLER. That is livers, not pounds. You cannot add these together?

Mr. BAKER. No, sir. Roughly, the livers comprise about 10 to 12 percent of the total weight.

Mr. MILLER. So you would have landings in California added to the figures that you have already established here for the Pacific Northwest.

Mr. TOLLEFSON. Mr. Chairman, I have one other question.

In the 15,000 tons example cited, if they were not taken, the dogfish population would just go on increasing until your Department comes up with some answer?

Mr. BAKER. That is rather difficult to say, sir, not knowing what the abundance was prior to the initiation of the fishery in the late 1930's. Presumably the abundance has now built up to at least the level that existed before the dogfish fishery was initiated.

Mr. TOLLEFSON. I was going to say that we have the director of fisheries of the State of Washington here who has given this matter a tremendous amount of study and if the Chair is willing and the members are willing, perhaps he could supply some more direct information because of his nearness to the problem, or more than the present witness.

The CHAIRMAN. I think the other members want to ask some questions about this bill first.

Mr. Boykin?

Mr. BOYKIN. No questions.

The CHAIRMAN. Mr. Rivers?

Mr. RIVERS. No questions.

The CHAIRMAN. Mr. Mailliard?

Mr. MAILLIARD. I would like to ask one question, Mr. Chairman.

Do I gather from your testimony that it is your personal opinion that this would not be an effective means of control?

Mr. BAKER. Yes, sir.

Mr. MAILLIARD. The only alternative that you have suggested is to find some commercial value which would encourage the commercial fishermen to take this fish?

Mr. BAKER. Yes, sir.

Mr. MAILLIARD. What prospect do you think there is?

Mr. BAKER. I believe that I mentioned earlier, sir, the prospects are not rosy, but there is a possiblity of developing a use for dogfish, let us say, as a source of material for pet food or as a source of food for furred animals, such as mink, and so forth, or as a source of fishmeal.

Mr. MAILLIARD. With this low-protein content, it does not look very promising; does it?

Mr. BAKER. It does not.

Mr. MAILLIARD. That is all.

The CHAIRMAN. Mr. Garmatz?

Mr. GARMATZ. No questions.

The CHAIRMAN. Mrs. Sullivan?

Mrs. SULLIVAN. No questions.

The CHAIRMAN. Mr. Dorn?

Mr. DORN. I do not think, Mr. Chairman, that anyone has told us what a dogfish shark is.

I wonder if the witness would tell us what a dogfish shark is.

Mr. BAKER. It is a small form of the shark family. They are about 2 feet in length and they occur very widely over the world in the temperate zones, both in the Atlantic and the Pacific. To some degree they are migratory and appear to have moved up and down the Pacific coast.

Mr. DORN. You say they are small sharks. Would they be 4 feet or 10 feet?

Mr. BAKER. Two feet, roughly, sir.

Mr. DORN. Then you add, they go all over the world in the temperate zones?

Mr. BAKER. They do move around a great deal.

Mr. DORN. So that if I were a fisherman over in the Indian Ocean and I caught one of these sharks, would I be entitled to a bounty?

Mr. BAKER. I think the physical process of transporting it to the Pacific Northwest, if other conditions were agreeable, probably would prevent any bounty collection on that basis.

Mr. DORN. Suppose that I just was interested in collecting a bounty and shipped my fish over? I would be able to get a bounty then, would I not?

Mr. TOLLEFSON. Will the gentleman yield?

The area is limited by the bill itself.

Mr. BAKER. Yes, sir.

Mr. DORN. But nobody knows where dogfish shark are caught. There is nothing on the dogfish to identify the waters it is in?

Mr. BAKER. No, sir.

Mr. DORN. The fishery department would not know what area the shark was caught in, would it?

Mr. BAKER. It would be very difficult to determine that, sir. That is one of the disadvantages that we see in the bounty system.

Mr. DORN. As one of the members just reminded me, you could transport the livers over a long distance rather than the sharks in order to collect the bounty, could you not?

Mr. BAKER. I believe that is correct, sir. I am not familiar with the importation laws or duties as they apply to dogfish.

Mr. DORN. So then this would be remotely possible that all over the world our fishery regulatory bodies would be receiving dogfish livers and paying bounties on them?

Mr. BAKER. Certainly there are tremendous quantities of them available in British Columbia waters, for example.

Mr. DORN. Then we would be really paying bounties to the Canadian fishermen?

Mr. BAKER. There is a very good prospect of that, I think.

Mr. MAILLIARD. You gave some figures of peak year landings in Oregon and in Washington. We had some indications as to what they might have been in California. Do you have any idea of what they might be in British Columbia?

Mr. BAKER. It seems to me, sir, and I speak only from memory, that the peak year in British Columbia was either 1943 or 1944, at which time the total take was in the neighborhood of 40,000 tons, as compared with the peak of about 23,000 tons for Oregon and Washington.

Mr. MAILLIARD. Under the terms of this bill, if the Secretary of the Interior so determined, we would pay the British Columbia fishermen, would we not?

Mr. BAKER. I am not prepared to say whether that would be feasible or not.

Mr. MAILLIARD. It says:

> * * * payments made under subsection (a) of this section shall be made to domestic fish producers or otherwise as the Secretary of the Interior shall determine.

Mr. BAKER. Yes.

Mr. MAILLIARD. That is pretty clear that it could be anybody who walks in the door.

Mr. BAKER. The bill does indicate that this bounty is to be paid for dogfish taken in areas designated by the Secretary. However, as indicated earlier, it is rather difficult to enforce such a proposition.

Mr. MAILLIARD. Assuming that this bounty is sufficient to make that profitable, would this species be migratory as I understand it is to a considerable extent, or would the chances be that the fish taken in British Columbian waters would at some time have been in American waters?

Mr. BAKER. That is quite possible.

Mr. MAILLIARD. Then we are really talking about possibly a 60,000- or 70,000-ton annual catch?

Mr. BAKER. We feel that the fishery probably would not sustain a catch based on the peak years for the fishery because at that time there was definitely a decline in takes, both in British Columbia and Washington and Oregon.

Mr. MAILLIARD. So, if there were fish at that rate, would it tend to destroy the species?

Mr. BAKER. I think the prospects of destroying a species that is so widely distributed and which moves about on the oceans of the earth is absolutely out of the question. There is no possibility of eradicating a species of that kind as we now know the history of it.

Mr. MAILLIARD. Even if we destroyed them in these waters, they could come from elsewhere and start up again?

Mr. BAKER. Yes, sir. That would be my definite thought on the matter.

Mr. MAILLIARD. This looks like a hopeless proposition unless we are going to continue it forever.

Mr. BAKER. I think it would be an endless proposition once the bounty proposition is started.

The CHAIRMAN. Mr. Dellay?

Mr. DELLAY. Mr. Mailliard just brought up a point previously emphasized by our chairman.

This is a program of continual expense with no possible solution in sight. I was very much interested in the conversation about that in looking at this from the other end of the telescope and developing some sort of an industry that might cost the Government initially but in the long run would bring about a final solution to this problem, if we could get some industry established to take care of that problem per se.

Sooner or later this program can be terminated, but this looks like an endless tunnel.

Mr. TOLLEFSON. Would the gentleman yield?

Mr. MAILLIARD. Yes.

Mr. TOLLEFSON. I wonder what the Secretary of the Interior, Mr. Seaton, or Mr. Leffler, would think of your testimony when you leave the inference that imports of livers or dogfish from anyplace in the world would result in a bounty to whomever might want to bring them in.

Do you want to leave the inference that Mr. Leffler or Mr. Seaton would permit that sort of thing under this kind of legislation?

Mr. BAKER. The Department, I am sure, sir, would certainly take every means to prevent that.

Mr. TOLLEFSON. Of course it would, and I think that your inference is ridiculous. I think it is an insult to Mr. Seaton and to Mr. Leffler.

Mr. BAKER. I meant to indicate, if I did not, that I am not acquainted with the importation laws which relate to dogfish and I am not prepared to say that the United States could pay a bounty on dogfish taken by other nationals of other nations and delivered, let us say, to the Pacific Northwest. I do not know.

Mr. TOLLEFSON. You know, as well as I do, that they would not pay anybody to import dogfish into this country even for bounty at $10 a ton.

Tuna costs $300 and more a ton.

How would it pay a fisherman just to catch dogfish and expect to make money at $10 a ton? It is not in the cards.

Mr. BAKER. Certainly not, unless there might be some supplemental use or value to those fish in a reduction operation, say, so that the purchase price of the fish by the processor would supplement the bounty.

Mr. TOLLEFSON. That is all. Thank you.

Mr. PELLY. I would like to find out if you know anything about any program together with Canada jointly to eliminate this predator? Has Canada taken any steps in that direction?

Mr. BAKER. It is my understanding, sir, that Canada attempted to put into effect a bounty system but was not able to make it work satisfactorily. I have a very sketchy bit of information here on the subject. However, I do not know that they attempted a bounty program.

Mr. DINGELL. Would you be able to get us that information?

Mr. BAKER. Yes, sir.

(The information referred to follows:)

CANADIAN DOGFISH BOUNTY PAYMENT PROGRAM

In May 1956, the Canadian Department of Fisheries announced a Government program to reduce the number of predatory dogfish on the west coast, in response to a request for such action by the fishing industry, the fishermen's unions, and the sport fishing clubs of British Columbia. The Canadian program was designed to encourage the reduction of dogfish into fishmeal for use in livestock and poultry feeds through an offer to pay fishermen a bounty of $10 a ton for whole dogfish up to 30,000 tons for a period of 1 year. The program envisioned the use of a sales-slip system between fishermen and plant operators as the basis for the payment of the bounty to the reduction plants.

The Canadian bounty system was not successful and was not carried out due to a number of factors. Most of the reduction plants were not equipped to handle dogfish carcasses, processing costs were high, and the end result was a low-quality product. Dogfish sharks deteriorate rapidly and the high urea content of the carcasses fouls the holds of fishing vessels to such a degree that such vessels cannot handle food fish for some time. While some processing plants paid as much as $25 a ton for experimental quantities of dogfish sharks, they could not maintain such prices for substantial quantities after the bounty payment was approved. In the end, the price offered by the plants, in addition to the bounty payment, was not adequate to stimulate a commercial dogfish shark fishery.

The dogfish bounty program was dropped by the Canadian Department of Fisheries after 1956, and information from that department indicates that the bounty program will not be renewed.

Mr. DORN. I am interested in bounties, and I wondered just how often the United States, through Congress, has offered bounties on fish up to now.

You mentioned something in Alaska with reference to trout, I believe.

Was there any other fish besides that on which there was a bounty?

Mr. BAKER. I know of none, sir, that was strictly a bounty payment.

Of course, we do make payments for the recovery of tagged fish, which is a little different proposition.

Mr. DORN. That is merely to find out where the fish went?

Mr. BAKER. The payment in Alaska of the trout bounty was merely administered by the Federal Government and not paid for by the Federal Government.

Mr. DORN. I am sorry. I did not get that.

Mr. BAKER. The payment of the trout bounty in Alaska during the 1930's came from funds other than Federal money.

Mr. DORN. So that really with that exception, the Federal Government has no experience with the payment of bounties?

Mr. BAKER. Not to my knowledge.

Mr. DORN. You mentioned that Canada had one type of experience with the payment of bounties, probably on this type of fish?

Mr. BAKER. Yes, sir.

Mr. DORN. Do you know of any other governments or any other places that have attempted to put bounties on certain types of fish?

Mr. BAKER. No, sir; I cannot recall any offhand.

Mr. DORN. Would you not think, then, that if the Canadian Government had a particular type of experience on this type of fish, and it was the only type of bounty ever paid for fish as far as you know, that this committee, before it acted would have to get advice from someone who knew exactly what happened in Canada with reference to the bounty on this type of fish?

Mr. BAKER. Yes, sir. I have agreed to supply that data for the record.

Mr. DORN. That is all.

The CHAIRMAN. Mr. Dellay?

Mr. MILLER. Are you going to pass me by?

The CHAIRMAN. I thought you were finished.

Mr. MILLER. How long have the dogfish lived in the Pacific Ocean? Is there any data to show that they are a native there as well as in other places of the world?

Mr. BAKER. Yes, sir.

Mr. MILLER. They are as old as the salmon, as far as we know.

Mr. DINGELL. Older.

Mr. MILLER. You or I cannot tell whether the salmon came first or the dogfish.

Mr. BAKER. No, I cannot answer that.

Mr. MILLER. Nobody can answer that, so these species, along with thousands of other species, developed in the ocean pretty well and maintained itself in balance, is that not correct?

Mr. BAKER. Yes, that is correct; although I think, sir, that you might have situations where a change in environment, conceivably warming of the water——

Mr. MILLER. We changed the environment of the salmon when we polluted a lot of the streams in the interest of economy in the west coast. We built a lot of dams and cut off their spawning grounds.

I believe, as you say, we affected the ecology of fish.

Mr. BAKER. Yes.

Mr. MILLER. If the salmon has gone down, you cannot charge it entirely to an increase in dogfish.

Mr. BAKER. That is quite right. We have had a decline in the number of our salmon fisheries in areas——

Mr. MILLER. Including the overtake that might be taken by other nations that border on the Pacific. That would have an effect on the salmon.

Mr. BAKER. That is right.

Mr. MILLER. The dogfish entirely is not responsible for the decline in salmon.

Would you, as a scientist, even try to assign the effect of dogfish on the salmon in British Columbia?

Mr. BAKER. No, sir; I could not.

Mr. MILLER. Do you think anyone could, with the knowledge that you have?

Mr. BAKER. No, sir.

Mr. MILLER. There are other predators besides dogfish, as far as salmon are concerned.

Do not sea lions, of which we are very proud along the Pacific coast, do a pretty good job on the salmon, too?

Mr. BAKER. Yes, sir. There, again, however, they feed very extensively on other species.

Mr. MILLER. Have you ever heard stories when, right before the rains and the freshets, when particularly silver salmon are congested in waiting for the heavy rains to wash out the barriers along the coast, the sea lions take a bite out of the bellies of the mature fish and toss them in the air?

Mr. BAKER. That is correct.

Mr. MILLER. Do not the average sea lions take about 15 pounds of fish a day to support themselves along the Pacific coast?

Mr. BAKER. I think that would be a fair estimate.

Mr. MILLER. That was the estimate some years ago.

Mr. BAKER. Of all fish, all species.

Mr. MILLER. If we are going to pay a bounty on this, do you not think it would open the door to paying a bounty on sea lions along the Pacific coast? Would we not have as much right to come in and plead with other types of fishermen, particularly sardine fishermen, in saying that sea lions are a hazard to them in eating tremendous amounts of sardines?

Mr. BAKER. Certainly, there are many species——

Mr. MILLER. Have you ever heard fishermen tell tales about the Pacific coast and getting a net full of sardines and then have a sea lion come over and go into the bunch of sardines and rip up a $3,000 net to pieces, in the twinkling of an eye?

That is not an uncommon thing; is it?

Mr. BAKER. Yes.

Mr. MILLER. Not so uncommon that during the war, when for security reasons they insisted that every gun be taken off of a boat and sardine fishermen, by special concession of the Department of Defense, were allowed to keep rifles and shotguns on their boats in order to try to take care of sea lions when they got too close to them?

Do you remember those regulations?

Mr. BAKER. I remember similar situations in Alaska.

Mr. MILLER. I think that there is a lot to the bill and I think that you have got something, but I do think that where we want to attack this problem—I would be for giving some money to the Division—to effectuate at the earliest possible moment these studies that you are talking about. This type of fish, just like the sea lion, has no value commercially. It is too low on protein to be reduced, is it not?

The California packing corporations put a lot of money on this and a fellow by the name of Kay Hofden spent a lot of money trying to find some use for sea lions. The California packing corporations tried to split the hide and make leather out of it and could not do it. I used to have a pocketbook made out of sea lion leather. It is a very beautiful leather, but it is impractical.

I think where we have to attack the thing is to see if you cannot develop a market for this fish. All you are going to do now is to pay a man for taking fish that he gets into his net.

I have nothing further.

The CHAIRMAN. Mr. Dellay?

Mr. DELLAY. I have said my piece.

The CHAIRMAN. Mr. Pelly?

Mr. PELLY. I have one or two short questions, Mr. Chairman.

First of all, I would like to ask the witness if he would agree with the statement that the control of the dogfish shark would probably be feasible only through capture by commercial fishermen?

Mr. BAKER. Only by commercial fishing gear, sir.

Mr. PELLY. I rather gathered, or I may have misunderstood, but I thought you said that if we went ahead with the bounty system and captured the maximum amount, that you anticipated it still would not reduce the number of dogfish.

Mr. BAKER. On the basis of the landings we experienced during the period when there was a large-scale fishery for dogfish.

Mr. PELLY. It was my experience that when the liver was of great value they were eagerly sought after and indeed at one point the little boats were out fishing for dogfish, and they were having difficulty in getting them because they were so reduced in numbers.

Mr. BAKER. That is right.

There was some concern during this period that the resource actually was being overfished.

That is reflected by a decline in the landings over this period.

Mr. PELLY. That contradicts your original statement. I think that it stands to reason that there is an incentive for the fishermen to harvest these fish. They are just going down in numbers, and they will not be such an economic loss to the fishermen nor a nuisance.

I do not want to ask any more questions, Mr. Chairman. I am anxious to leave as much time as possible for someone who is an expert, and that is the director of fisheries in the State of Washington.

The CHAIRMAN. I think the members want to ask this witness some questions.

What is your background with the Fish and Wildlife Service?

Mr. BAKER. Sir, I have been with the Service for 24 years in an administrative capacity.

My background is not in biology.

I am a graduate of the University of Washington School of Business Administration.

The CHAIRMAN. The State of Washington?

Mr. BAKER. Yes, sir.

The CHAIRMAN. Has there been a study on the breeding ground of these fish? Where do they breed?

Mr. BAKER. Their young have been observed very widely in Puget Sound. As I gather it, the female produce only every other year, and then only some 15 to 17 young each time. They have a relatively low mortality rate and live for many years. They have a life span of something like 29 years, so that the population does build up rather rapidly.

The CHAIRMAN. Do these fish hatch their eggs?

Mr. BAKER. I beg your pardon?

The CHAIRMAN. What is the term used? How do they reproduce? How do they spawn?

Mr. BAKER. They reproduce young fish.

The CHAIRMAN. They give birth to young fish?

Mr. BAKER. Yes.

The CHAIRMAN. Mr. Clark?

Mr. CLARK. No questions.

The CHAIRMAN. Mr. Gross?

Mr. GROSS. Mr. Witness, you say the Department opposes S. 2719. I believe that was your statement?

Mr. BAKER. The original bill, yes.

Mr. GROSS, The original bill?

Mr. BAKER. I understand that there has been an amended S. 2719 introduced and reported out by the Senate.

Mr. GROSS. There is no difference between the two bills that I have before me, S. 2719 and H. R. 13613, that I can see; the bills that I have before me.

Mr. TOLLEFSON. Would the gentleman yield?

Mr. GROSS. Yes.

Mr. TOLLEFSON. The reason that I want to ask is that, on the original bill, they included sea lions and hair seals and other predators; the Department objected to hair seals and fur seals being included. For that reason, they were eliminated from this bill, and then the Department, according to Mr. Leffler, withdrew its opposition.

Mr. MILLER. You would not want to discriminate against the fishermen in other parts of the Pacific coast, would you?

Mr. TOLLEFSON. No; no. This is what happened in the Senate bill. That included the other items, and the Department objected and, as a result of the objection, the Senate removed hair seals and fur seals. I offer that by way of explanation.

Mr. PELLY. I could add that the lamprey eel is also in the original bill, and program with respect to Beluga whale, possibly.

Mr. GROSS. This could run into quite a little money, could it not, Mr. Witness? I ask that question on the basis of the statement in connection with this report from the Department of Fisheries. The State of Washington report says that, on a short, 30-minute haul of these grounds, they may catch close to 30,000 pounds of dogfish per set. If you pick up 30,000 pounds of dogfish in one 30-minute haul, that is 15 tons of dogfish and, at the rate of $10 a ton, that could run into a lot of money, could it not?

Mr. BAKER. Yes, sir. I believe we indicated earlier that the fisheries, on the basis of past experience, would sustain an annual take of some 15,000 tons without any appreciable decline in the stock.

Mr. GROSS. 15,000 tons?

Mr. BAKER. Yes.

Mr. GROSS. If they could catch them at the rate of 15,000 tons per 30-minute haul, it will run more than that figure?

Mr. BAKER. It could very well.

Mr. GROSS. I would think so.

I would like to ask committee counsel a question if I might, Mr. Chairman.

What is the purpose of the bill providing for the raising of carp in the rice paddies of Arkansas?

The CHAIRMAN. You might refer that to——

Mr. GROSS. Did that bill go through?

Mr. BOYKIN. I do not recall.

Mr. PELLY. It was on the Consent Calendar, and I just happened to be absent at the time. I know.

Mr. ZINCKE. I can check.

Mr. GROSS. Never mind. The point I want to make is that here we are asked to pay a bounty on what amounts, roughly, to fish on the Pacific coast, and we are setting out to deliberately propagate rough fish down in the rice paddies of Arkansas and Louisiana.

How inconsistent can we get here? How are you ever going to develop a market for rough fish in this country if you are going to spend the taxpayers' money to propagate carp in the ricefields of Arkansas and Louisiana and other places, perhaps, in the South. I just do not understand this kind of business at all. Somewhere, we ought to pull the string.

There will be no market for your rough fish, and you can spend all the money that you want to to develop research, but you are going to wind up in a blind alley. You cannot compete with the raising of carp in the ricefields down here and then pay $10 bounty on rough fish in the Pacific in unlimited amounts. You cannot compete with that, can you?

Mr. BAKER. Sir, I am not at all acquainted with this ricefield proposition or the production of carp. There is a good market for canned pet food. Great quantities of rough fish, presently, are used for canning pet food.

Mr. GROSS. Evidently, according to this statement from the University of Washington, we are importing low-cost predator fish production in this country for the same purpose? That is, for the purpose of pet food and what have you? How do you ever expect to solve a situation of this kind? You are not going to solve it by paying $10 a pound bounty and expect to do something with a product that you get as a result of a $10 bounty.

Mr. PELLY. Will the gentleman yield?

Mr. GROSS. Yes.

Mr. PELLY. I know of your interest in the cost of everything, and I even raised the point as to the number of tons that one vessel might catch. The Senate report says that, on the basis of last year's catch, it would result in bounty payments of approximately $138,000.

Mr. GROSS. Well, it will run much higher than that.

Mr. PELLY. I will agree with the gentleman. From the estimates that I have seen, they would indicate to me it would run up, possibly, to $250,000 a year.

Mr. GROSS. I have one question. You cannot say that the Canadians are doing anything, specifically, about this problem at the present time?

Mr. BAKER. They are faced with the same problem, and it is my understanding that a bounty system has been tried without success, for one reason or another.

Mr. GROSS. I am talking about the present time. You cannot say, specifically, they are prepared to do anything about this problem; is that correct?

Mr. BAKER. No, sir; I have no knowledge.

Mr. GROSS. They are in much better shape, economically, to do something about it than we are. We just raised our debt limit yesterday.

Mr. MILLER. We are facing the same kind of a situation as you are, with surplus wheat and corn.

Mr. GROSS. Except the consumers in California get the benefit of that subsidy, and they will not get any benefit from a subsidy on inedible fish.

Mr. MILLER. I am concerned with what the people of the United States get.

Mr. GROSS. The gentleman will admit that you get a lot of cheap food by virtue of a subsidy for agriculture.

Mr. PELLY. When a weed gets into a countryside and a farmer is helpless, the Department of Agriculture will go into a program, a cooperative program, to eliminate the weed. Here you have all of the public domain in the water where an individual fisherman is helpless, and it then does require a program of the Federal Government to go into those waters to eliminate the pest. I think that there is a comparison between the two.

Mr. GROSS. I have been spending good money trying to eliminate Canadian thistles on an 80-acre pasture.

Mr. PELLY. On the roadways and the countryside, you do not do anything about it; you are helpless.

Mr. GROSS. I do not get much help from the Government on that. I do not expect it and I do not want it.

Mr. BONNER. Mr. Dingell.

Mr. DINGELL. Do we know anything at all about the present economic value of this dogfish? Is there any present economic use for them at all?

Mr. BAKER. Not to my knowledge. In 1955 to 1957, I believe, the going value of dogfish-liver oil was a little better than $2 a gallon.

Mr. DINGELL. What was the landing value of dogfish per pound, or per ton, at that time?

Mr. BAKER. I cannot say, as to that. That involves some conversion factors that have not been worked out.

Mr. DINGELL. What is the cost of salmon, or tuna, per ton, landed, or herring? Or menhaden?

Mr. BAKER. The cost of fish, landed?

Mr. DINGELL. Yes. What do the fishermen get at the dock—about $350 a ton for tuna?

Mr. BAKER. Yes.

Mr. MILLER. Landing tuna and landing other species are different. You do not fish for tuna in the Pacific Northwest or the coast of California. You have to go way down to the Galapagos Islands.

Mr. DINGELL. I am aware of that.

Mr. MILLER. Do not compare the two. Sardines can be landed for about $30 a ton.

Mr. DINGELL. Is it economical for fishermen to go out and catch these dogfish at $10 a ton? Will they go out to catch them at $10 a ton, or 10 cents a pound for dogfish liver?

Mr. BAKER. From my limited knowledge, I think that might not be enough. The proposed bounty of $10 per ton probably was intended to supplement what value there might be in the dogfish as a reduction proposition. In other words, perhaps the processor would be willing to pay $10 a ton, and the bounty might supplement that payment to the fisherman.

Mr. DINGELL. What I have been working around to is this: Instead of paying a bounty of this sort, would we be better off if we were to just have the Secretary of the Interior make a study of the problem and let us know what the situation is?

Mr. BAKER. It is my own personal view, sir, that the Federal Government should, perhaps, concentrate on studies of means of control, or means of developing markets—whether this relates to oyster drills or dogfish—and, having developed these means of control or means of utilization, it should then be up to the agency having jurisdiction over the management of the fisheries to apply those means of control, or to benefit from that research on increased utilization.

Mr. DINGELL. In other words, we would be better off to know what we are doing before we start?

Mr. BAKER. That is just a personal opinion.

Mr. DINGELL. The range of the dogfish, you say, is all over the Temperate Zone; is that right?

Mr. BAKER. That is right.

Mr. DINGELL. That is, roughly, how many million square miles of ocean?

Mr. BAKER. I cannot even hazard a guess on that.

Mr. DINGELL. How many dogfish are there per mile of ocean?

Mr. BAKER. That, of course, varies with the season, as the fish move.

Mr. DINGELL. It would be a huge number, and they propagate fast and they live for quite a while?

Mr. BAKER. They live for a long period of years. The rate of propagation, compared with other species, actually, is rather low, but that is offset very largely by a very low mortality rate.

Mr. DINGELL. They have no natural enemies.

Mr. BAKER. That is so.

Mr. DINGELL. You said that, in 1944, the peak catch in the United States and Canada was roughly 55,000 or 60,000 tons.

Mr. BAKER. Yes.

Mr. DINGELL. And you said that 15,000 tons a year would not cause any appreciable reduction.

Mr. BAKER. In Oregon and Washington.

Mr. DINGELL. It took only 10 years from the 1944 catch for them to become a pest again?

Mr. BAKER. That is right.

Mr. DINGELL. You have had a bounty on prairie dogs and coyotes, and you have run into trouble on both of those bounty programs.

Mr. BAKER. That is my understanding.

Mr. DINGELL. You killed the coyotes, and then you had jackrabbits.

Mr. BAKER. You upset the natural balance in nature.

Mr. DINGELL. You tried to control these Dolly Varden trout, and you have as many as you ever had, and all you did was spend a lot of money. You have a bounty program on hair seals.

Mr. BAKER. The Federal Government does not sponsor a bounty. The Territorial government of Alaska has a bounty on hair seals, and has had for many years. I think even the Territorial government people will concede it has not been effective in appreciably reducing the population of hair seals. They have done a good job where they have concentrated on the hair-seal population in the estuaries of some of our salmon rivers, such as the Copper River. They have done a good job there of making a significant reduction in the local population.

Mr. DINGELL. Is the hair seal migratory?

Mr. BAKER. They move around, to some extent.

Mr. DINGELL. Do they move like a dogfish?

Mr. BAKER. I am not prepared to say just to what extent hair seals do migrate.

Mr. DINGELL. You said the Department was going to study the literature. How long would it take them to study the literature, and how much will it cost, with regard to this dogfish business?

Mr. BAKER. I could be mistaken, but it's my understanding, in this fiscal year 1959, we do have a study underway of all the available literature on dogfish, with the idea of determining from the literature how best to proceed on an actual research program to develop a use for dogfish.

Mr. DINGELL. How long would it take for you to get a good, worthwhile program on this dogfish, and how much would it cost to get a good, workable dogfish program—to determine economic uses, to determine methods of control, and so forth, so that you would know how to go about it and how to use the things once you got them?

Mr. BAKER. I would estimate in the vicinity of $50,000 a year.

Mr. DINGELL. For how long?

Mr. BAKER. Probably 4 or 5 years.

Mr. DINGELL. $50,000 a year for 4 or 5 years?

Mr. BAKER. Yes.

Mr. DINGELL. Would you want to check that out and give us some more concrete figures on that?

Mr. BAKER. I would be glad to do that.

Mr. DINGELL. Thank you, Mr. Chairman.

(The information referred to follows:)

SUMMARY OF A RESEARCH PROGRAM TO DEVELOP INDUSTRIAL USES FOR DOGFISH SHARK

During peak production of vitamin A from fish livers, dogfish products valued at about $6 million per year were produced. This income was derived entirely from vitamin A oil in the dogfish livers, and, with the introduction of synthetic vitamin A, the entire utilization of domestic dogfish-liver oil ceased. Dogfish-liver oils, however, contain many other potentially valuable chemicals. A long-term, intensive research program to identify and evaluate for industrial use these possibilities is urgently needed to reestablish this now-defunct industry.

Such an effort represents the best, possibly the only, means of commercially and profitably utilizing dogfish, and, at the same time, controlling the abundance of this species.

At the present time, an intensive review is underway of all aspects of the scientific literature concerning the biology and technology of the dogfish shark. Correlative literature searches are being made on animal oils and on animal pet food nutritional requirements. These reviews will be used to guide detailed program planning for technological research to be undertaken in fiscal years 1960 through 1964, as funds permit. The estimated cost is $100,000 annually for a 5-year period to conduct investigations along the following lines:

(1) Preparation at the Bureau's Seattle Fishery Technological Laboratory of experimental batches of chemicals to be derived from the dogfish-liver oil. This would be started the first year.

(2) A thorough chemical study to determine the identity, concentration, chemical properties, and therapeutic or other industrial value of the component of dogfish-liver oil would be carried out on contract, by Hormel Institute, which, under another program, is currently making a study of the composition of fish oils in general. This program would start the first year and continue for at least 3 years.

(3) Studies to effect improvement in manufacturing processing of dogfish meal would be carried out in the pilot-plant equipment of the Seattle Fishery Technological Laboratory. This would start the second year and would continue through 1964.

(4) Evaluation of dogfish-meal quality for poultry feed would be carried out in the poultry husbandry departments of the Universities of California and Wisconsin (which currently carry out cooperative work with the Seattle Fishery Technological Laboratory). Similar studies would be initiated at the animal husbandry department of Oregon State College on the nutritive value of dogfish meal for other animals. These programs would start the first year, be expanded the second year, and would continue through fiscal 1964.

(5) Evaluation of chemicals identified in the contract chemical program at Hormel Institute would be made by suitably qualified laboratories, under contract, for possible adaptation to various commercial uses. This phase would start the second or third year of the program and would continue through fiscal year 1964.

(6) Investigation of the biochemical mechanism whereby urea is formed in dogfish, and means which might be taken to eliminate or reduce the amount so formed.

Mr. CURTIN. I notice in the bill they provide for the payment of a bounty in two ways. The bill says:

The Secretary of the Interior shall pay a bounty of $10 a ton for unlivered dogfish sharks, or 10 cents a pound for dogfish-shark livers.

Why do you have two ways?

Mr. BAKER. I think, sir, with the view that if the dogfish livers actually were removed from the fish there would definitely be a use for them if supplemented to the extent of this proposed bounty.

Mr. CURTIN. Would there not be a possibility of paying two bounties on each dogfish, under this language?

Mr. BONNER. It is $10 a ton for unlivered dogfish, or 10 cents a pound for dogfish livers, one or the other.

Mr. CURTIN. My question is: What is to prevent a fisherman from taking the livers out and sending them in in one package for the bounty, and sending the rest of the fish in at another time for that bounty?

Mr. BAKER. That is the reason I made a reference a while ago to the fact that there was some ambiguity here in the word "unlivered." Unlivered is intended to mean that the liver has not been removed from the dogfish.

Mr. CURTIN. I was under the impression that an unlivered dogfish was a dogfish from which the liver has been removed.

Mr. BAKER. I think that there is considerable confusion on that point.

The CHAIRMAN. Unlivered would mean that the liver is in the dogfish.

Mr. CURTIN. The liver is in the dogfish?

The CHAIRMAN. Undressed fish would mean fish with the guts in them.

Mr. CURTIN. I misunderstood the meaning of the word.

The CHAIRMAN. There is a very prominent witness here to be heard.

Mr. NIX. I would like to know whether or not your available information would indicate whether or not the predatory habits of the dogfish have lessened the supply of edible fish, or have affected the pocketbook of the industry.

Mr. BAKER. I think, on the basis of the information developed to date, it would be very hard to establish a case on that point.

Mr. NIX. Until you have determined that, would you not say that it would be rather farfetched to speak of a bounty?

Mr. BAKER. You mean the objective of the bounty?

Mr. NIX. Yes.

Mr. BAKER. Well, insofar as the nuisance value of the dogfish is concerned, there is no question but if you can reduce the abundance of dogfish through one means or another you would abate that nuisance to the commercial fishermen, as well as to the sport fishermen.

Mr. NIX. I might make the observation that, if this is only for the nuisance value, there would be thousands of nuisances in the ocean.

Mr. PELLY. I would just like to refer to the report from the Senate, which bears on that particular point. It says:

> The best estimate that the committee received indicated that dogfish sharks consume 5 times their weight in food fish per year with a value of over 10 times the cost of the bounty involved.

The CHAIRMAN. That contradicts the witness' testimony.

Thank you, sir. We will hear the next witness.

STATEMENT OF MILO E. MOORE, DIRECTOR OF THE DEPARTMENT OF FISHERIES, STATE OF WASHINGTON

Mr. MOORE. My name is Milo Moore. I am director of the Department of Fisheries of the State of Washington. I have been in the fish business for 41 years. I served our country 2½ years in the Mediterranean countries, 2½ years in the Asian countries, and 2½ years in Congress with the Senate Committee on Interstate and Foreign Commerce. I returned to the State of Washington last year to become director of fisheries for the second time. I was director of fisheries from 1945 to 1949.

I probably am the one responsible for this bill before you today. I would like to have included in the record that the Fish and Wildlife Service, gentlemen, is in no way capable of explaining this problem to your committee.

We in the State of Washington have studied the problem of predators. We have a great interest in fishing, from Alaska to California. We send the majority of the fishermen who fish Alaska from the Seattle and Puget Sound ports. We have studied the fisheries problem to improve these enterprises.

I have some 60 biologists working for the Washington Department of Fisheries. Our research program involves an expenditure of $750,000 in 2 years. We are spending about $3.5 million in 2 years for fisheries management in the State of Washington.

We have studied dogfish and other predators for some 30 years, and I can assure you gentlemen there is available information which will explain practically every question that you have asked here today.

Back in the days before fish traps were eliminated in Puget Sound, dogfish were controlled. When they lifted the salmon, they would shovel the dogfish overboard, after killing them, to get rid of them. A few were hauled to the reduction plants for oil and meal in those days, but it was a method of eliminating and holding down the population of the dogfish, skates, and other predators or undesirable fish.

In 1933, we eliminated the fish traps in the State of Washington, and the dogfish began to increase. I believe that it was in the late 1930's that our scientists discovered the use of vitamin A and other vitamins derived from the dogfish shark, and other fish livers, and this became a thriving business. We harvested sharks all up and down the coast for their livers. This enterprise continued until other scientists discovered a method of making synthetic vitamins, and this affected the market and lowered the price of the livers to the fishermen.

In the last few years, our doors have been wide open to any country that wanted to ship in dogfish sharks, or any other fish livers, and they have succeeded in absorbing our markets. Those conditions have affected the present market to the extent that the fishermen are not paid a sufficient price; they can't afford to fish for them. The price of whole dogfish now, delivered to a reduction plant, is between $15 and $18 a ton. That is for the whole fish. The livers alone bring about 10 to 17 cents a pound. The fishermen claim—and this was included in hearings before Mr. Magnuson's committee last year—that they can fish and make a living with a delivery price of around $20 to $25 a ton. The $10-a-ton bounty, or a 10-cent-a-pound subsidy for livers, would just about make a difference of whether or not there is a profit in it for the fishermen.

These dogfish have increased in our waters so greatly in the last few years, particularly the last 2 years, that there are dogfish in every bay, every place that you set your line. Along the coast on the best fishing banks there are dogfish, from central Oregon to southeastern Alaska. They are predators, and they will eat anything in the water. They prey on food fish, on the food chain of other food fish, and we are continually harvesting bottom fish and salmon and other species of food fish and are holding their stocks down, and we are letting the dogfish go. They are becoming a menace similar to the lamprey eels in the Great Lakes. We also have lamprey eels in increasing numbers every year in all of our streams on the Pacific coast. They grow about twice the size of the Great Lakes lamprey, and fish that are tagged and captured on the high seas across the Gulf of Alaska show indications of lamprey eel marks on them. Along our coast, there are marks on the salmon from sharks. From our research, and from my experience in other countries, I am led to believe, if we do not follow the role of the farmer in controlling the environment of our food fisheries in areas where we can control it, each year the fisheries are

going to go down. In Europe and other countries, they control the dogfish because they eat them. It is considered a good fish in Europe and Asia, so they eat the dogfish they capture. They then ship the livers over to us to be disposed of on the United States market. Foreign fishermen work very cheap.

Canada is also interested in what this Congress does, or what may be done on our side, about the dogfish. Three weeks ago I talked with Joe Whitmore, who is head of fisheries in western Canada, and he said they appropriated in 1954 $200,000 for dogfish control. They realize dogfish sharks are a predator and a menace to the fisheries. He said they had trouble administering it for the reason they have a very strong union and the union got into an argument with the packers, and the reduction-plant operators were attempting to absorb the subsidy and not pass it on to the fishermen. This is a matter of administration, and the Canadians are going to try to work it out to be fair to the fishermen.

I believe that such a program can be administered fairly and honestly by bonding some of the reduction plants that will take the livers in or process the whole carcasses.

The difference between $10 a ton and 10 cents a pound for livers is to give the small fisherman a break. The small boats will go out and fish for dogfish, and they cannot haul and carcasses back to market on their boats: so, they take the livers out and put them in 5-gallon cans and throw the carcasses overboard. The big boats can gain a little more out of the fisheries by bringing a deckload of carcasses back and dumping the whole load to the reduction plants. Ten cents a pound for the liver or $10 a ton for the whole fish amounts to about the same thing.

This would give wintertime work to our fishermen, who are in a very bad condition financially now, largely due to imports that have flooded their market. Also, there is a sharp decline in the abundance of salmon. I can assure you that we have a lot of information on this subject.

I have been here in Congress for two sessions. I was privileged on occasions, to testify in behalf of fisheries, and I believe one of the greatest handicaps you people have is in getting the facts about our fisheries. I believe it is forgotten that the Congress of the United States represents the States as well as the Federal services. We find that there is almost a complete barrier, in most of the work we want to do, between Congress and the State agencies that are responsible for fisheries management. It takes the Fish and Wildlife Service, sometimes, many years to catch up with conditions because they are so far removed from the industry and conditions affecting fisheries.

In 1955, when we were up in Alaska taking testimony from the fishermen for the Senate committee, the fishermen then told us that the Japanese were taking our fish from Bristol Bay; that they were taking a tremendous toll of our salmon. It took the Fish and Wildlife Service 3 years in their research to credit their reports of net-marked fish, as indications that we were being hurt.

There is something wrong in the fact that we are not working better together on some of these research problems, or that they do not recognize the work we have done. We get out reports continually. We have reports on dogfish. And I believe in our next session of the

legislature we are going to do everything we can to get effective control of dogfish in the inland waters. We will capture them when they come in to have their pups on the mud flats. That is one of the easiest places to get them at certain times of the year. They are all along the coast for hundreds of miles on the fishing banks. You will find, after about 6 weeks of heavy fishing of about 12 big trawlers, they will be cleaned out and in some areas and held down.

The CHAIRMAN. You have made a very interesting witness. I have enjoyed listening to you. There is a considerable difference between your testimony and that of the previous witness. We created in the Fish and Wildlife Service a Division of Commercial Fisheries. I believe in Portland, Oreg., there is a regional office for the Fish and Wildlife Service.

Mr. MOORE. Yes.

The CHAIRMAN. Is not the commercial fishery at Seattle?

Mr. MOORE. Yes.

The CHAIRMAN. That is on Puget Sound?

Mr. MOORE. That is right.

The CHAIRMAN. They are right next to you?

Mr. MOORE. Yes.

The CHAIRMAN. Will you explain to me why the Fish and Wildlife Service do not know anything about this and you know so much about it? You are right there, together.

Mr. MOORE. I cannot explain it.

The CHAIRMAN. That angle of it is most interesting to me. When we created this Division in the Fish and Wildlife Service, I thought that we were doing something to promote commercial fishing, but, from your testimony, we did not do anything.

Mr. MOORE. Congressman, the law that you passed is an honest law and a good law. You cannot be responsible for how it is carried out.

The CHAIRMAN. Is there not a working agreement between your State laboratories and the Federal effort?

Mr. MOORE. In some ways, we work very well together. There are two philosophies. The philosophy you have heard here today is all through the Fish and Wildlife Service and through some of the State agencies—you cannot do anything to improve the environment of these fisheries. If you take the dogfish out, you will upset the balance of nature, and something else will happen. I can tell you this, a farmer has upset the balance of nature in every single way. They have knocked the predators out and the competing weeds. They have fertilized to grow a crop they want.

Mr. DORN. And look at the state of agriculture at the present time.

The CHAIRMAN. You have touched on something that is very interesting. We went to work on this lamprey-eel business up in the Great Lakes. We were told by the Fish and Wildlife Service that there was a way to control them at their breeding grounds. You spoke about control of the dogfish in the breeding areas. I want to find out whether the control in the breeding area would not be better than this proposal that we have here.

Mr. MOORE. They can be captured both on the fishing banks and on this breeding ground.

The CHAIRMAN. They do not seem to have any program at all, either way.

Mr. MOORE. They are studying. Ninety percent of the Fish and Wildlife program today is study.

The CHAIRMAN. Paperwork?

Mr. MOORE. Paperwork and study. We are ready to go to work.

The CHAIRMAN. The offices are full of people. I sent Mr. Zincke to examine these offices. They are full of people doing paperwork. Out in the field, they have very few people.

Mr. MOORE. I walked into the same situation as director of fisheries. I now have 60 biologists in my department.

The CHAIRMAN. In one State?

Mr. MOORE. Yes, and I have $750,000 to work with on research alone.

The CHAIRMAN. What is your contribution in your State?

Mr. MOORE. About $3.5 million in 2 years.

The CHAIRMAN. From one State?

Mr. MOORE. Yes. We are doing more than any other State in the Union to assist commercial and food fisheries.

The CHAIRMAN. I want to congratulate Oregon, Washington, and California. They seem to be doing more on this fish and wildlife business than our Federal Government is doing. That is my observation. I want to get Mr. Leffler down here to correct that criticism in the Wildlife magazine that we prohibited them from hiring a lot more people to put in these offices. Your testimony is substantiating us, we want to get more people into the field doing something. You have made a fine witness and I have enjoyed hearing you.

Mr. MOORE. We have millions of dollars worth of knowledge, much of it yet to be applied.

The CHAIRMAN. I do not know which one of you is right, but you have made a very interesting witness for your proposition here.

Mr. TOLLEFSON. The witness who preceded you was not a biologist?

Mr. MOORE. He claimed that he was not.

Mr. BAKER. No.

Mr. TOLLEFSON. You are just an administrative man?

Mr. BAKER. Yes.

Mr. TOLLEFSON. So far as you know, the Fish and Wildlife Service of the United States has not studied the dogfish problem to any extent?

Mr. MOORE. I think that they have studied almost every fish that swims, but they have not analyzed and studied in recent years on what the dogfish are eating.

The CHAIRMAN. The other witness did testify that they examined their stomachs.

Mr. MOORE. That was probably several years ago.

The CHAIRMAN. They testified that these dogfish were eating fish that were not good for any other purpose but dogfish food.

Mr. MOORE. That is not correct. We find wherever the dogfish are they will eat the fish that are there. When he comes into our creek mouths, in the mouths of the rivers, they are eating the salmon. Whichever bank he is on he is eating the fish that are available.

Mr. TOLLEFSON. What I am getting at is you said this study that somebody made was several years ago.

Mr. MOORE. It is quite an old study.

Mr. TOLLEFSON. Has the Fish and Wildlife Service actually done any research to speak of in connection with the dogfish problem?

Mr. MOORE. I believe they have, but I think that we have exceeded them on dogfish predation. We have had men working on this for a long time.

Mr. TOLLEFSON. Let me ask you a direct question. You heard the previous testimony. Did you agree with all of his testimony?

Mr. MOORE. I do not agree with hardly anything he has said.

Mr. TOLLEFSON. And you think that this bill would help the dogfish problem?

Mr. MOORE. I think this bill is necessary and Canada is anxiously awaiting to go along and join with us so that there will not be any conflict between one area and the other. They will work with us and we can control this menace. We cannot eradicate them but we can control them.

Mr. TOLLEFSON. You can keep the dogfish population down to some degree with some kind of legislation like this? If you do not have any legislation what will happen to the dogfish population?

Mr. MOORE. They will increase and they will continue to consume the food fish. The minute that the import question is balanced, then the dogfish predator control can be taken off. There will be a little profit in fishing then for the fishermen and they will go ahead and catch them. It is the cheap imported oil that has forced the price down and absorbed the market.

Mr. TOLLEFSON. In other words, if we do not do something the dogfish are going to take over the whole area?

Mr. MOORE. They are doing it now.

Mr. MILLER. I think that the gentleman's testimony has been contradictory in some spots. Would you say that the feed habits of the dogfish have changed over the last 20 years?

Mr. MOORE. No.

Mr. MILLER. I think that the dogfish is a great hazard. I think that you want to do something about it. The State of Washington has gathered all of these data. I am surprised with 60 biologists that you have not made the data available to other biologists. I headed the California Division of Fish and Game for 4 years, just as you head it in Washington, and our biologists broadcast their information quarterly to the world so that it could be used. Do you do that?

Mr. MOORE. Not too widely. We do not have enough money for printing.

Mr. MILLER. You have 60 biologists and you cannot print the stuff so that the information can be made available. I know the problem that you are up against. You gather the data and then the moment you get the people together to edit it and print it somebody says that you have too many people working in the office.

Mr. MOORE. That could be.

Mr. MILLER. This is a very delicate thing, and I do not think it is in good taste for you to come up here and leave the innuendos you do against the Fish and Wildlife Service. They are weak. I do not maintain they are strong. I do not think that we have given them a chance to cooperate under the new law. I think if you do not have the money to do this perhaps we can supply some money to collate your data and

publish it to find out where we are going. Maybe the thing that you suggest, which is always the obvious one, is the right thing to do. You are talking about being able to control them on their breeding grounds. Now you are getting down to something that sounds good to me.

Mr. MOORE. The only way that you can ever do it is by a bounty or subsidy which in this case means the same. You have to pay the fishermen to do it. The fisherman is the only man who can do it.

Mr. MILLER. You know as a fish and wildlife expert that bounties have never succeeded in any place they have been paid. Name me one place where a bounty has helped to control.

Mr. MOORE. If you will add up what it costs to keep these men on the Government payrolls you will find that the bounty is a less costly way.

Mr. MILLER. I am just asking you as an expert about depredation. Where has the payment of a bounty ever succeeded in curtailing or doing the things it was supposed to do?

Mr. MOORE. I believe that we can give you a report where it has been successful.

Mr. MILLER. I would like to see that because I will admit I have been in Congress for 14 years—and I have not been connected with this work for 14 years—but I did not see it previous to that.

Mr. MOORE. We have these reports and they are available to the Fish and Wildlife Service.

Mr. MILLER. You said a minute ago they were not printed.

Mr. MOORE. We mimeograph them.

Mr. MILLER. Do you allow your biologists to sit down and talk to their biologists?

Mr. MOORE. Yes. They are continually discussing fisheries problems. The information is in the Fish and Wildlife records, if they dig it out.

Mr. MILLER. Yes.

The CHAIRMAN. I do think that we have an interesting situation here. It is certainly going to require bringing Mr. Leffler back again.

Mr. MILLER. It is too bad that it comes this late in the session.

The CHAIRMAN. It is interesting to me.

Mr. MILLER. I think it is highly important.

The CHAIRMAN. I do, too.

We will try to set up another hearing. Mr. Leffler is in town.

Mr. MOORE. Yes, I think he is. I talked to him yesterday.

Mr. MILLER. I think this is an important question. It should receive immediate attention. I would be very hard to convince that paying a bounty on fish is the solution. My mind is not closed, but you will have to show me a lot more than I have been shown.

The CHAIRMAN. The committee will stand adjourned.

(Whereupon, at 12:10 p. m., the committee adjourned.)

MISCELLANEOUS FISH AND WILDLIFE BILLS

FRIDAY, AUGUST 8, 1958

HOUSE OF REPRESENTATIVES,
COMMITTEE ON MERCHANT MARINE AND FISHERIES,
Washington, D. C.

The committee met at 10 a. m., in room 219, Old House Office Building, Hon. Herbert C. Bonner (chairman) presiding.

The CHAIRMAN. The committee will come to order.

We will first consider H. R. 13475.

(H. R. 13475 follows:)

[H. R. 13475, 85th Cong., 2d sess.]

A BILL To authorize an exchange of lands at the Rochester Fish-Cultural Station, Indiana

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Interior is authorized to convey to the city of Rochester, Indiana, all of the right, title, and interest of the United States in the following-described lands that are a part of the Rochester Fish-Cultural Station:

Beginning at the corner of sections 4, 9, 31 and 32 of township 30 north, range 3 east, second principal meridian; thence south 89 degrees 41 minutes east, 974.2 feet; thence north 26 degrees 34 minutes west, 684.4 feet; thence south 74 degrees 54 minutes east, 1,723.8 feet; thence south 0 degrees 02 minutes west, 170.2 feet; thence south 0 degrees 02 minutes west, 990.5 feet; thence north 76 degrees 24 minutes west, 2,399.4 feet; thence north 0 degrees 03 minutes east, 438.8 feet to point of beginning, containing 51.03 acres, more or less;

in exchange for a conveyance by the city of Rochester, Indiana, to the United States of title to the following-described lands;

Two (2) parcels of land located in Indiana, Fulton County, city of Rochester, adjacent to State Highway Numbered 14, in township 30 north, range 3 west, second principal meridian, part in section 9 and part in section 32 of Michigan road lands, and described by metes and bounds as follows:

PARCEL 1

Beginning at a point north 62 degrees 43 minutes west, 577.1 feet from the center quarter corner of section 9, in the north right-of-way line of State Highway Numbered 14, 40 feet from and normal to the centerline thereof, thence with said north right-of-way line, north 67 degrees 53 minutes west, 1,898.0 feet to a right-of-way monument; thence continuing north 67 degrees 53 minutes west, 160.0 feet to a point; thence north 29 degrees 46 minutes west, 174.8 feet to a point in the boundary of the land of the Rochester Fish-Cultural Station; thence with said boundary south 68 degrees 27 minutes east, 1,640.9 feet; south 55 degrees 16 minutes east, 568.4 feet to the place of beginning; containing 4.99 acres, be the same more or less.

PARCEL 2

Beginning at the center quarter corner of section 9, a point in the boundary of land of the Rochester Fish-Cultural Station, thence with said boundary south 89 degrees 06 minutes west, 50.1 feet; south 33 degrees 10 minutes west, 91.6 feet; south 55 degrees 25 seconds east, 849.1 feet; south 85 degrees 24 minutes east, 90.0 feet; north 71 degrees 14 minutes east, 49.0 feet to a point on the southeast corner of the dam at the west end of the wing wall at Lake Manitou;

thence with the shore of said lake south 7 degrees 07 minutes west, 134.6 feet to the northeast end of a wire fence around the raceway; thence south 37 degrees 19 minutes west, 47.0 feet to a point 7.4 feet southwest of the southeast fence corner; thence north 54 degrees 33 minutes west, 1,654.0 feet in part with the northeast right-of-way of Lake Shore Drive to a point at the intersection of said northeast right-of-way line with the south right-of-way line of Highway Numbered 14; thence with said south right-of-way line, south 67 degrees 53 minutes east, 321.4 feet; south 68 degrees 52 minutes east, 67.0 feet; south 71 degrees 21 minutes east, 77.38 feet to a point in the boundary line of land of the Rochester Fish-Cultural Station; thence with said boundary line, south 55 degrees 21 minutes east, 35.47 feet; south 66 degrees 10 minutes east, 53.64 feet; south 83 degrees 18 minutes east, 53.64 feet; north 89 degrees 06 minutes east, 43.59 feet to a point in the south right-of-way line of Highway Numbered 14; thence with said right-of-way line south 77 degrees 21 minutes east, 47.2 feet; south 80 degrees 21 minutes east, 54.4 feet to a point in the boundary lines of land of the Rochester Fish-Cultural Station; thence with said boundary line east 89 degrees 06 minutes west, 50.8 feet to the place of beginning; containing 3.01 acres, be the same more or less.

The above-described two parcels of land contain in the aggregate 8.00 acres, more or less.

When such lands are conveyed to the United States they shall become a part of the Rochester Fish-Cultural Station and shall be administered under the laws and regulations applicable thereto.

The CHAIRMAN. We will hear from Mr. Tunison, Assistant Director, Bureau of Sport Fisheries and Wildlife.

This bill will be read by counsel.

Mr. ZINCKE. To authorize an exchange of land between the city of Rochester, Ind., and the fish-cultural station at that point. There would be exchanged 51.03 acres of undeveloped marginal land for 8 acres of suburban land.

The departmental report is favorable, and it is indicated the value of the land is approximately the same.

STATEMENT OF ABRAM V. TUNISON, ASSISTANT DIRECTOR, BUREAU OF SPORT FISHERIES AND WILDLIFE

Mr. TUNISON. I have a very short statement.

The CHAIRMAN. Proceed.

Mr. TUNISON. With reference to H. R. 13475, an exchange of lands at the Rochester, Ind., fish-cultural station, the justification therefor is quite adequately stated in a letter of August 7, 1958, to the chairman of this committee from the Assistant Secretary of the Interior.

It should be noted that the water supply for the fish-cultural station traverses the length of the 8 acres proposed to be secured from the city of Rochester. It is in the interest of the Government to secure title to this frontage property thus assuring control of the waer canal and to prevent any possible undesirable developments in this area.

The CHAIRMAN. What are you doing here?

Mr. TUNISON. This area we would like from the city is actually in front of the headquarters of the fish-cultural station, and it is right next to a State highway.

We want that land in exchange for the 51 acres in the back part of our fish-cultural area, and that particular land is not suitable for pond development. It really is surplus to our needs as we do not make use of it, and it is a maintenance property for us.

The CHAIRMAN. When did you acquire the land?

Mr. TUNISON. The land we want to acquire now?

The CHAIRMAN. The land you are releasing to the city. What was it originally acquired for?

Mr. TUNISON. As part of a tract for the whole station development.

The CHAIRMAN. Fish hatchery?

Mr. TUNISON. That is right, sir.

The CHAIRMAN. You want to change the land in the back of that in exchange for the city land on the front?

Mr. TUNISON. Yes, sir.

The CHAIRMAN. How much difference in acreage is there?

Mr. TUNISON. Fifty-one acres for which we do not have use, and we want the 8 acres through which our water supply canal passes. It is very important.

The CHAIRMAN. What type of land is this 51 acres?

Mr. TUNISON. Very marginal land, sir. It is not suitable for fish-cultural work and not suitable for farming.

It is hillside land next to a railroad siding.

The CHAIRMAN. What railroad?

Mr. TUNISON. I do not know that, sir.

The CHAIRMAN. Is it capable of being developed?

Mr. TUNISON. For industrial purposes, yes.

The CHAIRMAN. What is the difference in the value, then?

Mr. TUNISON. So far as we are concerned it has equal value because of our water-supply canal.

The CHAIRMAN. Mr. Tollefson?

Mr. TOLLEFSON. Do you know of any opposition to the measure?

Mr. TUNISON. No, sir.

The CHAIRMAN. Did the Interior Department promote the exchange?

Mr. TUNISON. No, sir. We have always wanted that strip of land in front of our hatchery and we had hopes that some time the city would give it to us. They never did that and apparently they think there is some use they can make of this other land.

The CHAIRMAN. Who promoted the transaction?

Mr. TUNISON. I believe it was Congressman Halleck. I do not know the local people.

Mr. ALLEN. Do you have any idea as to the values per acre?

Mr. TUNISON. Perhaps this map might be helpful. This green area is ours and we do not have need for it.

The red area is what we desire because of the water canal which passes directly through here.

The CHAIRMAN. You mean you will get water from this canal?

Mr. TUNISON. The canal is already in there. However, should the city decide to allow this for public development, gas stations and what have you, then we would be in jeopardy.

Mr. ALLEN. What do you have between the pond area and the piece outlined in green?

Mr. TUNISON. This is the outland of our pond. This is a little wooded area. Actually there is a service driveway that goes through there, but nothing more than that. We do not plan any pond development in this area.

Mr. ALLEN. Does the chart show the name of the railroad?

Mr. TUNISON. Erie Railroad.

Mr. ALLEN. Where is the town located?

Mr. TUNISON. At this point on the map.

Mr. ALLEN. There is no development or buildings there at all?

Mr. TUNISON. No development at all. The value of the United States property has been appraised at $17,860. The city property is $18,100.

The CHAIRMAN. Who were the appraisers?

Mr. TUNISON. Our own Service people from the regional office in Minneapolis.

The CHAIRMAN. You did not get a public appraisal?

Mr. TUNISON. No, sir.

Mr. RAY. This present negotiation was initiated by your Service, or by the city?

Mr. TUNISON. The present negotiation was initiated by the city, but, prior to that, we had always hoped that the city would give us this small strip of land, which was between the State highway and our hatchery. In the early stages, they did donate some land in forming this station, but they reserved a small strip.

Mr. PELLY. I have no questions, but I want to express the principle that I believe in, that we should have independent appraisals. This is probably a very small matter. Perhaps there could be an exception here, but I asked for independent appraisals when it came to shipping matters, and I think it is advisable to go outside the Department here. That is all, Mr. Chairman.

Mr. GROSS. Off the record.

(Discussion held off the record.)

The CHAIRMAN. There is something here about the fish aquarium. What is the situation?

Mr. TUNISON. The city has been very anxious for us to construct an aquarium there at the station. There is a high visitor load at the lake, as our hatchery and ponds adjoin the lake. They had always hoped we would go ahead and construct and operate it for the public.

We would like to do so, but, under our financial circumstances, we have not been able to do that.

The CHAIRMAN. If this transaction took place, has the city expressed themselves willing to join you in a mutual project?

Mr. TUNISON. No, sir.

The CHAIRMAN. It might be noted in the record that the News Sentinel, of Rochester, Ind., is interested in this and is favorable to the proposal. The mayor and City Council of Rochester are also favorable. The city council has passed a resolution regarding this. It is the best judgment of the Fish and Wildlife Service that this is a fair and equitable exchange of property?

Mr. TUNISON. Yes, sir.

The CHAIRMAN. Further questions?

(No response.)

The CHAIRMAN. Further witnesses?

(No response.)

The CHAIRMAN. We will return now to H. R. 13613.

(H. R. 13613 will be found on p. 23.)

The CHAIRMAN. Who is here to testify this morning on this measure?

Mr. ANDERSON. I am Andrew W. Anderson, Assistant Director, Bureau of Commercial Fisheries.

Mr. TOLLEFSON. Before the witness testifies, I would like to inform the chairman and members of the committee that Mr. Allen, my colleague here, came up with a suggestion which I thought, was a good one. I therefore introduced a new bill, but it has not yet been printed. Just for the information of the committee, it is, basically, a research bill. I have a few copies, which I will pass around.

It is, basically, a research bill providing for 2 years' research, with discretion to the Secretary of the Interior to pay bounties at $10 a ton for the dogfish, 10 cents a pound for livers, the same as the other bill, but with a limitation on the amount; in other words, a 2-year limitation with a limit of $250,000 per year.

Furthermore, it authorizes the Secretary of the Interior to promulgate the regulations under which the bounties would be paid. The purpose of that particular provision was to make certain, as certain as can be, that the sharks and shark livers from over in Canada would not come in or, if the fellow is out trolling for salmon and catches a bunch of dogfish sharks and their livers, he is not going to be pestering the Department of the Interior with claims.

I have only four copies here, but I will dispense them.

I showed a copy to Mr. Anderson this morning, and he is somewhat familiar with it.

House Joint Resolution 678 is the number of the bill I introduced.

The CHAIRMAN. You have Mr. Tollefson's amended proposal, and you have the original bill before the committee. Is that right, Mr. Tollefson?

Mr. TOLLEFSON. He has seen this copy, but he does not have it before him.

The CHAIRMAN. You had better give it to Mr. Anderson, so we can discuss it.

STATEMENT OF ANDREW W. ANDERSON, ASSISTANT DIRECTOR, BUREAU OF COMMERCIAL FISHERIES

Mr. ANDERSON. I looked at this briefly this morning before I attended this meeting, and it differs a little bit from the original bill, as Congressman Tollefson stated. It is limited to 2 years; provides both for research and the payment of bounties; and it also has a section which authorizes the Secretary of the Interior to cooperate with the official conservation agencies of the States bordering the Pacific coast, which I think, is a very good provision.

The CHAIRMAN. What is your background. Mr. Anderson?

Mr. ANDERSON. I was graduated from the University of Washington School of Fisheries in Seattle. I worked about 8 years in the commercial fishing industry, in fishmeal, fish oil, fish livers, and things of that sort, and since 1930 I have been with the Bureau of Commercial Fisheries and its predecessor agencies, the old Bureau of Fisheries and the Fish and Wildlife Service.

The CHAIRMAN. The Federal Bureau of Fisheries?

Mr. ANDERSON. Yes. I served first as a statistical agent, then as a fishery technologist. Later I was in charge of the Market News Service, in charge of the Branch of Commercial Fisheries, and, now am Assistant Director.

The CHAIRMAN. All right, sir; now, go ahead.

Mr. ANDERSON. I wish to say, first, that we certainly recognize that there is a dogfish problem in the Pacific Northwest. We have been aware of that for some little time.

There is no question but what there has been a substantial increase in the number of dogfish on fishing grounds. The fishing vessels and the fishermen are getting them in much larger quantities in their gear and, frequently, they are required to move from the fishing ground because of the abundance of dogfish.

They are a nuisance in the gear, filling up the nets, causing trouble removing them, and, no doubt, they cause appreciable expense to the fishermen because of this.

I do not believe there is evidence to prove that the dogfish, let us say, are appreciably more abundant than they were a number of years ago before there was any liver fishery; however, they are certainly much more abundant than they have been in recent years when the liver fishery did reduce the population appreciably.

So far as the bounty provisions of the bills are concerned, we do wish to call attention to statements that have been made previously, that a bounty system is not, usually, the most efficient way of controlling or reducing a population of predators. Usually, what happens is that it operates in a somewhat indiscriminate way and consists simply of removing fish as you would a crop.

Really to eradicate a predator, you should direct your efforts at certain times in certain places and hit them where it is most effective. I think perhaps that is the specific thing that we would like to call attention to, and, if the committee does approve this legislation and it is enacted, certainly the Secretary of the Interior would have to place certain restrictions on areas and types of fishing and things like that, rather than just permit indiscriminate fishing for dogfish so that anyone who brought in a liver or dogfish would be paid for it.

So far as administration problems are concerned, I would assume that what we probably would do is to act on a certificated bill from, let us say, reduction plants which would show that perhaps the fisherman delivered a ton of dogfish and, on the basis of that, we would pay the bounty.

The Department, itself, has no concern with the livers or the dogfish. We are not buying them or do not take possession of them. All we do is to pay a bounty on them after they have been landed, and, presumably, they would be sold either to fish-reduction plants for processing into fishmeal and fish oil or the livers would be sold to plants which produce vitamin A liver oils.

I think that is all I have to say at the moment, Mr. Chairman. I would be glad to answer any further questions with regard to the bills.

The CHAIRMAN. The witness here from the Department testified there was no value to this fish, so far as rendering plants are concerned.

Mr. ANDERSON. That is correct. There is practically no market for dogfish now, as such, and the price for dogfish livers is very low. It is not profitable for fishermen to go out and catch them at present market prices. The price for livers is, perhaps, around 5 or 6 cents a pound. The price for dogfish for use in the reduction plants is $10 or $15 a ton.

Mr. MILLER. Do you get a high-protein meal from dogfish?

Mr. ANDERSON. Fairly high protein; yes, sir.

Mr. DORN. I think someone testified to just the opposite yesterday; that it was low protein, and that is the reason you could not use it for cats, because it was not high protein enough.

Mr. ANDERSON. It depends on what you compare it with. So far as fishmeals go, it is not a high as herring, for example, but it is a reasonably high-protein meal, compared with certain other products. However, it is not what we would call a premium fishmeal, by any means.

Mr. MILLER. Is there an adequate supply of herring meal or other types of meal on the market today which would overshadow the dogfish meal?

Mr. ANDERSON. Dogfish meal is not competitive. That is, the reduction plants are not able to pay a price high enough to induce fishermen to fish for dogfish alone. If they paid a satisfactory price to the fishermen, the price of the dogfish meal would be higher than our domestic meals or the fishmeals that we import.

Mr. MILLER. Would they find a ready market for the dogfish meal?

Mr. ANDERSON. I think they would find a market at a price; yes.

Mr. MILLER. If we had to subsidize the price of the fish to the reductionists, really to the fishermen?

Mr. ANDERSON. Yes; there is definitely a market.

Mr. MILLER. You would not be glutting the market or taking the market away from some other type of fish?

Mr. ANDERSON. No; I don't think so.

Mr. MILLER. It would not be upsetting the economics of the fishery if you came in?

Mr. ANDERSON. Not for the volume involved. If it were competitive, of course, it would compete with other domestic meals and with the imported meals. We are relatively short of fishmeals, and import a substantial quantity.

Mr. GROSS. What is the last statement about imports?

Mr. ANDERSON. We import a substantial quantity of fishmeal because we do not produce enough for our agricultural needs.

Mr. DORN. Have you ever eaten dogfish?

Mr. ANDERSON Yes; I have.

Mr. DORN. How palatable is it?

Mr. ANDERSON. Quite palatable. It is used extensively in European countries as a food. During the First World War period here, I recall we used canned dogfish with satisfactory results. They used something quite similar in World War II to a small degree. This was the soupfin shark.

Mr. DORN. Can it be marketed as an edible product for American households?

Mr. ANDERSON. I think the American consumer would not particularly like the name, to start with.

Mr. DORN. You can always change the name.

Mr. ANDERSON. That is a very difficult thing to do. During the First World War period, they canned dogfish and, at that time, they changed the name to grayfish, but the canned product did not turn out well, and it is difficult to can. I doubt very much that we could develop much of a market as an edible product.

Mr. DORN. Even if the name were lily-white fish?

Mr. ANDERSON. That is probable.

Mr. GROSS. Do Asiatics eat it?

Mr. ANDERSON. Yes.

Mr. GROSS. Could you find a market for it in Asia or Russia?

Mr. ANDERSON. I doubt that very much. I think transportation costs would prevent that.

Mr. DORN. Has any research gone into making household recipes which might interest the consumer?

Mr. ANDERSON. Yes. We produced those recipes back in the days of the First World War, when we were short of certain foods, and we have a leaflet which lists dogfish recipes.

Mr. ALLEN. By way of information, this bill Mr. Tollefson introduced has been taken from bills regarding dogfish and bounties and the resolution of 1946 which provided for the investigation of lamprey in the Great Lakes, which presents a somewhat similar problem.

As I understand the resolution in the form it was introduced yesterday, it would provide $250,000 or less per year for 2 years for, first, the investigation of the problem, and, second, the payment of bounties, if that were the decision of the Secretary, giving to the Secretary, or the Fish and Wildlife Service as the agency designated to carry the responsibility, a rather full leeway as to how the money would be best spent, whether in investigation of the problem, a payment of bounties, or a combination of the two.

Is that the way you read the resolution?

Mr. ANDERSON. That is the way I read section 5 as it has been typed here.

Mr. ALLEN. In no event should they spend more than $250,000 for bounties and for investigations?

Mr. TOLLEFSON. Off the record.

(Discussion off the record.)

Mr. ALLEN. In the form the bill now comes to you, as introduced yesterday, does the Department desire that legislation, in your opinion? Do you think it is necessary?

Mr. ANDERSON. If I might go back just a moment in connection with this language, the bill that I have here has written in—

such sums as may be necessary, not to exceed $250,000 per annum for bounties, and such additional sums as are necessary to carry out the purposes and objectives of this joint resolution.

As I understand that, there would be $250,000 per year for bounties only, and then, if the Department decided there should be funds for technological research, let us say, they would request whatever amount they thought was appropriate.

Mr. ALLEN. Could you give an opinion as to how much an investigation of 2 years of this particular problem might cost?

Mr. ANDERSON. On our technological program we have set up an estimate of between $95,000 and $100,000 a year for a 4-year program.

Mr. ALLEN. Would that mean that the most this bill could cost, without coming back to Congress for more legislation, approximately $350,000 a year for 2 years?

Mr. ANDERSON. That is correct; yes.

Mr. MILLER. It would take a 4-year program.

Mr. ALLEN. Two years are authorized. They would have to come back before they could go further.

Mr. TOLLEFSON. The theory was to limit the bounties to 2 years.

Mr. MILLER. I like the limitation of the bounty, but you might be practical and know that you cannot make the investigation in 2 years, and you might as well figure what it will cost. I think the general approach is all right.

Mr. GROSS. What is there to research about this? Has it not already been researched to death?

Mr. ANDERSON. The situation is simply this: If you want to pay bounties to control the dogfish, you will be paying them from here on, indefinitely.

Mr. GROSS. Is that what the research goes into; payment of bounties?

Mr. ANDERSON. No. The research will be conducted to find a definite use for certain parts of the dogfish; for example, the dogfish-liver oil, which has certain attributes which are not found in other fish-liver oils. If we can find a pharmaceutical use for those particular properties, we might get a fairly high price for that, and that would make it a profitable fish. They then can go and fish for dogfish without a bounty.

Mr. GROSS. Is there not a tremendous amount of research on that already?

Mr. ANDERSON. Not this particular problem; no. The greatest amount of research has been done by the Bureau of Commercial Fisheries.

Mr. GROSS. I am surprised to hear that the University of Washington, with its splendid bureau of fisheries that they operate, has not done a job on this already. Certainly, the production people explored it, have they not?

Mr. ANDERSON. That is correct.

Mr. GROSS. I don't understand what there is to research about this problem.

Mr. ANDERSON. Research is simply to find an economic use that will permit fishermen to go out and fish for dogfish profitably rather than having to be subsidized or be paid a bounty.

Mr. GROSS. Do you think you will ever accomplish that?

Mr. ANDERSON. I would say chances are about 50–50.

We have done a great deal of work on fish liver oils. We know the background and know the leads to follow.

Mr. GROSS. Yet imports and synthetic vitamins have industry over.

Mr. ANDERSON. That is right. They had a flourishing thing until synthetic vitamin A was developed and imported liver oils from Japan increased in volume.

Mr. GROSS. Does it not really boil down to whether or not we will pay a bounty without regard to anything else?

Mr. ANDERSON. As I say, if you pay a bounty and you want to control dogfish you will have to pay it on into the indefinite future.

Mr. GROSS. What are the Canadians doing about research?

Mr. ANDERSON. They have done a certain amount of research and they have attempted to pay a bounty, but they ran into some difficulties with it.

Apparently they had not discussed the problem with the reduction plant owners, so back in 1956 when they instituted a bounty of $10 a ton for 30,000 tons of dogfish what happened was that when the first fishermen unloaded their dogfish at the reduction plant the reduction

plant promptly reduced its price $10 a ton and the fishermen said they could not fish if that was the case. I believe the total price was $20 a ton.

Mr. GROSS. How much did you say the Canadian bounty was?

Mr. ANDERSON. Ten dollars a ton. Apparently there was a misunderstanding.

As I recall it, the reduction plant was paying $20 a ton at the time for dogfish and apparently the Canadian Government assumed it would continue to pay $20, but the reduction plant apparently paid $20 for only a smaller amount for experimental purposes and said it could not continue to pay $20 on a reduction basis, so the whole program fell flat.

Mr. MILLER. Then it became a question of who would get the bounty, whether the fishermen would get it or the reduction plant?

Mr. ANDERSON. That is correct.

Mr. MILLER. How much do we know about the breeding habits of dogfish?

Mr. ANDERSON. We know a certain amount about them. We know something about where the nursery areas are. We know they produce relatively small numbers of young. They are born alive and they are fairly well able——

Mr. MILLER. Do we know enough about it that we might control the production or control the number of dogfish by controlling the breeding grounds?

Mr. ANDERSON. I think biologists probably would say no because they never know as much as they want about a situation like that, but we do know a fairly good number of the nursery areas and of their development so that if there were a program of this sort certainly we would pinpoint it to the place where it would be most effective.

Mr. MILLER. In other words, you would try to find out whether it would be possible to control them, and you do not think there is sufficient knowledge now but it would require more research and research would be done in this field?

Mr. ANDERSON. Yes, I would say research would have to be done concurrently with the bounty system. Certainly we do not think it would be an effective expenditure of funds to permit indiscriminate fishing of dogfish. We would want to spell out definite areas, definite times, definite places for this fishing to get the most for the funds that would be expended.

Mr. MILLER. Suppose we pay a bounty for the dogfish and get rid of them?

Are there any other fish that are predators?

Mr. ANDERSON. I don't doubt there would be requests of that sort. There are a number of predators in the ocean.

Mr. MILLER. Sea lions?

Mr. ANDERSON. That is right.

Mr. RAY. What is the principal objective of this bill? Is it to develop a market for dogfish?

Mr. ANDERSON. I would say the principal objective of the bill is to permit the fishermen in the Pacific Northwest to fish in a more efficient and economical way.

At the present time their fishing is interfered with because they catch these large volumes of dogfish in their nets, which sometimes

ruin the gear or force them to move to other areas, and all of this increases their expenses and reduces their catch of good fish.

Mr. RAY. That is the problem in salmon fishing?

Mr. ANDERSON. Yes, and probably to a greater degree trawl fishing.

Mr. RAY. You think the bounty would increase the catch of dogfish?

Mr. ANDERSON. Yes, it certainly would. There is no question about it.

Mr. RAY. To a sufficient extent to lessen the problem for the salmon fishers?

Mr. ANDERSON. The bounty certainly would reduce the population to some degree, depending, of course, on how it was operated.

Mr. RAY. How serious is the problem dollarwise? Can you give anything like an annual figure concerning this problem?

Mr. ANDERSON. I don't think I could offhand but I would be glad to give you an estimate of it.

Mr. RAY. Have you any figures as to how it would compare with the $350,000 a year mentioned in the bill?

Mr. ANDERSON. If $350,000 a year were to continue indefinitely it is difficult to say. I think probably you would get an equal return on it.

It would be much better if we could find an economical way to catch dogfish and sell them at a profit so that the bounty would not be necessary.

Mr. RAY. Would they continue to mix with other fish?

Mr. ANDERSON. Yes, but then there would be a market for them and the fishermen would bring them in and perhaps there would be a special fishery for dogfish as there was some years ago.

Mr. GROSS. Won't the administrative costs be tremendous? From whom will you buy these fish and how?

Mr. ANDERSON. We will not actually buy them, Mr. Gross.

Mr. GROSS. You are going to pay a bounty?

Mr. ANDERSON. That is right, but we will pay a bounty only after evidence has been furnished to us that a certain number of pounds of liver or tons of dogfish have been delivered to a plant, so we will act on a certificate from a reduction plant and pay the bounty on the basis of that.

We take no possession of either the livers or the fish.

So far as administrative costs are concerned we would certainly endeavor not to set the restrictions so there would be indiscriminate fishing so that someone could come in with two dogfish and ask for a bounty on those.

We would specify areas, times, and places.

Mr. GROSS. You never expect to see a market for these fish, do you?

Mr. ANDERSON. Yes. As I said before, I think there is a 50–50 chance in producing a product from dogfish which would make it a profitable operation.

Mr. GROSS. If they go to raising carp in Louisiana and Arkansas and some of these other States for the purpose of feeding pets, how are you going to compete with that kind of deal?

Mr. ANDERSON. I think using dogfish as a pet food would only be something that would help to carry the overhead.

Mr. GROSS. They can convert carp into meal.

Mr. ANDERSON. That is correct.

Mr. GROSS. You cannot compete with that, can you?

Mr. ANDERSON. No, I do not think you could.

Mr. GROSS. Yet with all the inconsistency in the world we voted the bill through—I guess it went through this committee to the floor of the House—to propagate carp down here in the ricefields.

Mr. ANDERSON. That is correct. That bill was enacted.

Mr. GROSS. So you are just not going to have any market for these commercially.

Mr. ANDERSON. I do not think the dogfish and the carp will be competitive with each other.

Mr. GROSS. No, because I think there is more protein in the carp, and dogfish will not compete with them.

The CHAIRMAN. Carp are not for rendering purposes. They are marketed alive for certain people.

Mr. ANDERSON. That is correct. Another objective of the rice-paddy program is not only to raise carp but also buffalo fish.

The CHAIRMAN. I wish you would tell Mr. Gross about the marketing of carp, if you will.

Mr. GROSS. I have eaten them, blood veins and all, and I never want to see another one.

Mr. ANDERSON. I might say in this rice-paddy program I do not think the primary objective is to raise carp. It is to raise buffalo fish and perhaps catfish and other species that bring a higher price. But a buffalo fish is a much higher priced variety than carp.

Mr. GROSS. There is nothing to prevent their being converted into meal or pet food.

Mr. ANDERSON. Except they are more desirable as an edible product.

Mr. GROSS. You can raise so many down there you can feed New York with carp until it runs out of their ears; is that not right?

Mr. ANDERSON. That is right.

Mr. GROSS. Sure.

Mr. DORN. Mr. Chairman, could I be recognized?

In answer to some questions by Mr. Ray, you indicated that the purpose of this bill was to eliminate as much as possible the dogfish in the northwest Pacific. Could that not be best done by hiring huge fishing boats and fishermen and going out and just catching dogfish as much as they could, rather than doing this in a roundabout way? Is not the direct way by far the best way?

Mr. ANDERSON. That is the more efficient way.

Mr. DORN. Would it not be cheaper?

Mr. ANDERSON. Yes, I think it would be cheaper in the volume produced and the effectiveness of the operation.

Mr. DORN. What we are trying to do here is completely wrong. What we should do is have a bill so we can hire a few fishing schooners to go out and catch the dogfish.

Mr. ANDERSON. As I said earlier, a bounty system is not the most effective way.

Mr. DORN. Then the most effective way and the cheapest way would be to go out as the ordinary, logical person would do, and hire fishing schooners to catch dogfish and eliminate them; would it not?

Mr. ANDERSON. That is correct.

Mr. MACDONALD. I would like to say we have a bill here this morning which would do very much what you suggested, if we can get to it.

Mr. GROSS. For dogfish?

Mr. MACDONALD. Not for dogfish.

The CHAIRMAN. Mr. Dingell.

Mr. DINGELL. I have here from the United States Fish and Wildlife Service a release of March 20, 1958, which states Interior is opposed to paying bounties on fish predators. Is that still the position of the Department of the Interior?

Mr. ANDERSON. That was the position on the original bill. That was based on the area where we have responsibility. Normally where an organization manages a fishery it also has responsibility for predators and things of that sort.

Mr. DINGELL. Have you changed your position that bounty payments on fish predators are not the way to help?

Mr. ANDERSON. It is not the most efficient way.

Mr. DINGELL. You have the whole North Pacific up there full of dogfish; is that right?

Mr. ANDERSON. The coastal areas, yes.

Mr. DINGELL. How are you going to catch all those dogfish out of there on the bounty payment you have proposed here?

Mr. ANDERSON. You are not going to catch all of them. The best you can do is reduce the population.

Mr. DINGELL. The migratory fish go back and forth, and as soon as you clean out one area they will go somewhere else because the feeding is good there.

Mr. ANDERSON. That is a possibility.

Mr. DINGELL. You said dogfish are worth 5 cents a pound for liver and 5 or 10 or 15 dollars a ton for the fish; is that right?

Mr. ANDERSON. Those are approximate figures.

Mr. DINGELL. If we add to that the bounty we have here, will it be economically feasible for people to go out and fish for these dogfish?

Mr. ANDERSON. I understand that a price of about 15 or 16 cents a pound for livers would make it profitable for the fishermen to fish for livers alone.

Mr. DINGELL. Are you prepared to tell us that a program of this sort will clean out these dogfish?

Mr. ANDERSON. No, sir; I have not said that.

Mr. DINGELL. Then we are actually providing a dogfish fisherman subsidy; is that right?

Mr. ANDERSON. You could call it a subsidy.

Mr. DINGELL. After we have finished this, will we have subsidies for the salmon fisherman, the halibut fisherman, the tuna fisherman, and other fishermen?

Mr. ANDERSON. A number of these segments of the industry have asked for assistance of one sort or another, some in the same category.

Mr. DINGELL. The State of Pennsylvania, I understand, has been paying bounties on weasels over the years; is that right?

Mr. ANDERSON. I do not know.

Mr. DINGELL. And they have more weasels than they ever had before; is that right?

Mr. ANDERSON. I think most bounty systems have turned out something like that.

Mr. DINGELL. In the Michigan area they sell the same fox scalp 3 or 4 times. Yesterday we were told that in the Dolly Varden control program they were catching them left and right, but they have more Dolly Vardens than they ever had.

Mr. ANDERSON. They have as many.

Mr. DINGELL. So it runs to a lot of money.

Mr. GROSS. You pay a bounty in Iowa on pocket gophers.

Mr. DINGELL. And you have more pocket gophers than you ever had before in the State.

Are you telling us this is a good bill?

Mr. ANDERSON. I think in all fairness if it were a little bit different, if it could be directed to nursery areas and areas where it would be most efficient——

Mr. DINGELL. We do not know where the nursery areas are, do we?

Mr. ANDERSON. We do not know all of them, but we know enough to direct the program to start with.

Mr. DINGELL. You do not know enough, though, to run a really effective program, but you want to start paying these subsidies right off the bat. Is that not really what you want to do?

Mr. ANDERSON. We did not introduce this bill.

Mr. DINGELL. No further questions.

(Off the record.)

The CHAIRMAN. Mr. Pelly.

Mr. PELLY. Mr. Anderson, the Department has just approved a $1 million bounty system to eradicate starfish up in New England; has it not?

Mr. ANDERSON. That is correct. I understand they have reported favorably on that legislation.

Mr. PELLY. And the dogfish is really more a menace and a predator than the starfish.

Mr. ANDERSON. I do not think the people of New England would agree with you on that.

Mr. PELLY. There is a dogfish, as I understand, which eats several times its weight in other fish, in shellfish, and in turn the saving by the elimination or reduction of the number of dogfish could be very material, as you have brought out; is that not true?

Mr. ANDERSON. That is probably true. At the same time, the dogfish probably eats other predators which prey on edible fish, too. So you would have to consider when you reduce the dogfish that you may get an increase in other predators.

Mr. PELLY. But the Secretary by issuing regulations could, if he wished, introduce this bounty to certain areas and in certain seasons, so he would pay a bounty at the time when they are in shallow bays reproducing. By experimentation under a research bill such as this, you really might develop some ideas which have not been brought out at all in this hearing.

Mr. ANDERSON. That is quite possible. I hope I have made clear that the Secretary, I am sure, would want to restrict areas and places.

Mr. PELLY. The shallow bays are literally almost solid with these dogfish at certain times when they are reproducing; is that not true?

Mr. ANDERSON. That is correct.

Mr. PELLY. If the regulation specified certain areas, it could in turn at minimum expense eliminate a vast number of these dogfish.

Mr. ANDERSON. I am sure that we would want to get the most value for whatever bounties were paid.

Mr. PELLY. To get the most value, would you not hire somebody at these seasons of the year to capture these dogfish and kill them,

rather than give them bounties? Would that not give you the most value?

Mr. ANDERSON. If you are comparing the two programs directly, you are correct. The former is more efficient.

Mr. PELLY. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Curtin.

Mr. CURTIN. Are these dogfish any problem to the fishermen on the east coast?

Mr. ANDERSON. Not to the degree they are to the fishermen on the west coast at present. They are a nuisance at times. The fishermen have to leave certain grounds if they get a lot of dogfish in their gear. But the complaints have not been nearly so numerous as from the west coast.

Mr. PELLY. The lady mayor from Gloucester, Mass., testifying on another bill recently stated that in her area they were quite a nuisance to the fishermen. I think they would support this legislation.

Mr. ANDERSON. This bill, of course, covers only the Pacific coast.

Mr. MACDONALD. I quite agree with the gentleman.

The CHAIRMAN. Mr. Nix.

Mr. NIX. Just one question, Mr. Chairman.

Will you agree to these conclusions?

First of all, there is no convincing evidence that the dogfish is more destructive to edible fish than any other predator? Would you agree with that?

Mr. ANDERSON. That is a little difficult to answer "yes" or "no." I do not think there is enough known to say that the dogfish is more a predator than any other species. Certainly it is a predator, but whether it takes top rank, I hesitate to say.

Mr. NIX. It is questionable. The answer would be subject to grave question. There is no conclusive evidence that it is.

Mr. ANDERSON. That is correct.

Mr. NIX. The reason he is picked out among the other predators is, first of all, he is a nuisance to fishermen?

Mr. ANDERSON. That is correct.

Mr. NIX. Secondly, he is in great numbers in the section where the fishermen operate.

Third, he is a hazard to their pocketbook.

Mr. ANDERSON. That is correct. All those statements are correct.

Mr. NIX. Thank you.

The CHAIRMAN. Mr. Garmatz.

Mr. GARMATZ. I would like to ask one question. What fish do these dogfish sharks go after? To what are they a menace?

Mr. ANDERSON. You mean what do they feed on?

Mr. GARMATZ. Yes.

Mr. ANDERSON. They feed on various varieties of fish, depending on the area they are in. They feed on herring, for example. They probably feed on young salmon at certain times.

Mr. GARMATZ. There is no way of telling just how much damage they do. They are just a general, overall nuisance to the fishermen themselves?

Mr. ANDERSON. They are primarily a nuisance. As I say, they do fed on whatever is available in the area. As I have pointed out, too, they may feed on other fish which also are predators of edible fish.

Mr. GARMATZ. They may be helping us in one way.

Mr. ANDERSON. They could be helping to a degree; yes.

The CHAIRMAN. All right, thank you very much, Mr. Anderson.

There is one other bill here for consideration. We have the fisheries loan fund bill, S. 3295, to increase the fisheries loan fund from $10 million to $20 million.

(S. 3295 follows:)

[S. 3295, 85th Cong., 2d sess.]

AN ACT To amend the Fish and Wildlife Act of 1956 in order to increase the authorization for the fisheries loan fund established under such Act

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That subsection (c) of section 4 of the Fish and Wildlife Act of 1956 (70 Stat. 1121) is amended by striking out "$10,000,000" and inserting in lieu thereof "$20,000,000".

Passed the Senate May 29 (legislative day, May 28), 1958.

Attest:

FELTON M. JOHNSTON,
Secretary.

The CHAIRMAN. Who is to testify on that?

Mr. ANDERSON. Mr. Chairman, I will testify on that, also.

The CHAIRMAN. All right, you may proceed.

Mr. ANDERSON. I have a brief statement.

As to the present status of the fisheries loan fund, as of July 28 we had received 459 applications for loans totaling approximately $16,500,000. Of these, 248 were approved for a total of $6,400,000, and 109 applications amounting to over $3,500,000 were declined. Twenty-five applications were withdrawn and 39 were found to be ineligible. Currently, 38 applications totaling $4,100,000 are in various stages of processing. Funds available for these applications amount to $3,900,000. Allowing for anticipated declinations and reductions in amounts of individual applications, these funds will be committed within the next 60 days.

Collections of principal and interest up to May 31, 1958, have totaled $425,000.

The fishery loan fund has provided a source of credit for fishermen who have no other place to obtain it. A great many of the vessels which have obtained fishery loans could not have continued in operation if they had not received these loans. We estimate that the first 167 vessels to have loans approved produced approximately 125 million pounds of fish during 1957.

That completes my statement.

The CHAIRMAN. How many loans are in default?

Mr. ANDERSON. There are five loans in default.

The CHAIRMAN. Amounting to what?

Mr. ANDERSON. Amounting to $377,000.

The CHAIRMAN. You have collected $425,000?

Mr. ANDERSON. In interest and principal.

The CHAIRMAN. In repayments.

Mr. ANDERSON. Repayments, yes, sir. Our amount of interest repaid to the main loan fund will we greater as time goes on because practically all of these loans were made so the interest and payments would be rather small during the first part of the loan.

The CHAIRMAN. Yes.

Mr. ANDERSON. In regard to the defaulted loans, I might say that there is 1 substantial loan of $250,000 which we are collecting in full out of the $377,000.

The CHAIRMAN. What do you recommend? What is your position on this?

Mr. ANDERSON. The point is simply that we will run out of funds in about 60 days, and we anticipate that we will require about $5 million each year to handle the loans as they are coming in now.

The CHAIRMAN. You will require $5 million in addition to the $10 million?

Mr. ANDERSON. Yes.

The CHAIRMAN. To carry out the anticipated business.

Mr. ANDERSON. Yes, for the next 2 years; and we would anticipate after that the loan program should carry itself.

The CHAIRMAN. Do I understand you need $15 million instead of $20 million?

Mr. ANDERSON. No, sir. We would need $20 million to put the loan program on a basis that it would sustain itself.

The CHAIRMAN. Do you handle the money directly?

Mr. ANDERSON. We make all the decisions on who gets the loans, the interest rate, the term of maturity, and so on. The paperwork is done by the Small Business Administration.

The CHAIRMAN. They actually give the money after you authorize it?

Mr. ANDERSON. No, sir. We have the money. The money belongs to the Department of the Interior.

The CHAIRMAN. Do I understand, then, that you have a variance in interest rate, that it is not a fixed interest rate?

Mr. ANDERSON. No, sir. The interest rate is 5 percent. The Secretary has the authority to change it, but he has established 5 percent as the uniform rate.

(Off the record.)

Mr. ALLEN. Has the program to date been of material benefit to the industry?

Mr. ANDERSON. I do not think there is any question about it. It has made it possible for a large number of fishing vessels to operate which could not possibly have operated otherwise.

Mr. ALLEN. You say a "large number." Approximately how many?

Mr. ANDERSON. As I stated, 167 vessels up through last year had been put back into operation, and they produced almost a million pounds of fish apiece during the year.

Mr. ALLEN. What would the value of that fish be?

Mr. ANDERSON. The retail value would probably run about 20 cents a pound.

Mr. ALLEN. Having reference particularly to the default, is it indicated that the program will sustain itself and that the income will more than take care of the losses through defaults?

Mr. ANDERSON. Yes; if we get this additional money. Our default record, as I mentioned, is $377,000 at present, of which $250,000 we will collect in full. Then there are four other smaller loans, and the chances of collecting them are fair to good. We may possibly lose $50,000.

Mr. ALLEN. Do you collect a percentage or some sum as the premium to insure the loan, as is done in other Government programs?

Mr. ANDERSON. No; there are no insurance or premium features.

Mr. ALLEN. Thank you.

The CHAIRMAN. Mr. Miller.

Mr. MILLER. No questions.

The CHAIRMAN. Mr. Sheehan.

Mr. SHEEHAN. The additional sum of money would be likened to an addition to a revolving fund. It is really not an expenditure. It is on a sort of loan basis; is it not?

Mr. ANDERSON. Yes, sir.

Mr. SHEEHAN. Therefore, the $10 million, if granted, would remain there until it is paid back or you get sufficient profit to pay it back to the Treasury?

Mr. ANDERSON. That is correct.

Mr. SHEEHAN. That is all.

The CHAIRMAN. These loans are available to fishermen all over the United States?

Mr. ANDERSON. Yes, sir. Presently they have been made to the largest degree in New England, where perhaps about 40 percent of our loans have been made; about 30 percent in California and that area; and perhaps 10 percent in the Northwest, the gulf, and elsewhere.

The CHAIRMAN. Mr. Macdonald.

Mr. MACDONALD. Sir, you are familiar with the fishing industry, obviously.

Mr. ANDERSON. Yes, sir.

Mr. MACDONALD. Therefore, you know that this bill would be of great help in many ways, but it certainly will not cure the fundamental trouble with the industry?

Mr. ANDERSON. That is correct.

Mr. MACDONALD. Is it not your position that other things should be taken into consideration while this bill is being passed, to aid this hard-hit industry?

Mr. ANDERSON. That is correct. This is only one part of the problem, a sort of holding action.

Mr. MACDONALD. It is perfectly clear in your mind that a good deal of the trouble of this industry was caused by other departments within the United States Federal Government; is that not correct?

Mr. ANDERSON. I am not sure exactly to what you refer.

Mr. MACDONALD. I am referring to foreign aid to Iceland. I am referring to the fact that the Tariff Commission on two occasions said that this industry had hit the peril point, a depressed state, and still it was given no relief by Executive decision.

Mr. ANDERSON. Yes. There is no question that those actions have caused problems within the industry.

Mr. MACDONALD. You would have no objection to amendments to this bill which would try to further help the industry?

Mr. ANDERSON. I could not speak for the Department until we actually saw what the amendments were, but there are problems in these other fields.

Mr. MACDONALD. To which you have a very sympathetic point of view and you would like to see them solved.

Mr. ANDERSON. I think the Department is taking that approach; yes, sir.

Mr. MACDONALD. Thank you.

Mr. DINGELL. Would it be in order to move that the bill be reported favorably at this point?

The CHAIRMAN. These gentlemen over here may have further questions.

Mr. DORN. I have just this one question. You remember during the hearing on the dogfish shark it was indicated by one of the members that this bill would be of assistance to the dogfish-shark industry. Could you tell me how it would be of assistance in eliminating the dogfish shark? Could you tell me how that would be?

Mr. ANDERSON. By that I presume you mean the reduction plants and the liver-oil plants.

Mr. DORN. I am just trying to follow through the gentleman's statement. I am looking for information.

Mr. ANDERSON. I think that is probably what is meant. These plants now are on the verge of going out of business. Unless they have a source of raw materials, such as these dogfish sharks or the livers, the chances are that in the Northwest there will not be any plants within the near future.

Mr. DORN. Would you use this money to lend to these plants you are talking about?

Mr. ANDERSON. No. The loan fund we are speaking of is available only to fishing vessels.

Mr. DORN. Then how would it affect the dogfish-shark industry?

Mr. ANDERSON. If you do something for the dogfish-shark industry to bring the sharks to the shore where they can be turned over to the plants, the plants will continue in operation on a profitable basis, which they cannot do now.

The CHAIRMAN. I am sorry, gentlemen, but we have a quorum call, and the committee will have to adjourn.

Does anybody else wish to testify on this revolving fund?

(No response.)

The CHAIRMAN. We will adjourn until further call of the Chair.

(Whereupon, at 11:15 a. m., the committee adjourned, subject to the call of the Chair.)

MISCELLANEOUS FISH AND WILDLIFE BILLS

THURSDAY, AUGUST 14, 1958

HOUSE OF REPRESENTATIVES,
COMMITTEE ON MERCHANT MARINE AND FISHERIES,
Washington, D. C.

The committee met at 10 a. m., room 229, Old House Office Building, Herbert C. Bonner (chairman) presiding.

The CHAIRMAN. The committee will come to order.

We have one bill this morning that there has been no discussion or hearing on. It is H. R. 11584, a bill by Mr. Burns of Hawaii. We are going to have a short hearing on this, and then an executive session to see if we can do anything with the bills that we have had hearings on.

(The bill referred to follows:)

[H. R. 11584, 85th Cong., 2d sess.]

A BILL To authorize a program for the conservation, restoration, and management of the rare Hawaiian Nene goose

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That whereas there are less than fifty Nene geese in the wild state in the Territory of Hawaii, and that this unique, native species of waterfowl is threatened with imminent extinction, the Secretary of the Interior is hereby authorized and directed to promote a program of research, propagation, and management necessary to effect the restoration of this threatened species in its natural habitat.

SEC. 2. The sum of $15,000 per annum is hereby authorized to be appropriated each year for a period of five years to carry out the purposes of this Act.

The CHAIRMAN. The first witness on this bill this morning will be the Delegate from Hawaii, Mr. Burns.

STATEMENT OF HON. JOHN A. BURNS, A DELEGATE FROM THE TERRITORY OF HAWAII

Mr. BURNS. Mr. Chairman and members of the committee, I am going to be very brief. I have a statement which I would like to ask the committee to put in the record, and I will try to brief it, if I may.

(The statement referred to follows:)

STATEMENT OF HON. JOHN A. BURNS, OF HAWAII, ON H. R. 11584

Mr. Chairman, I am deeply privileged to have the opportunity to make this presentation to the Committee on Merchant Marine and Fisheries. Your gracious courtesy in considering this matter at this time is greatly appreciated.

H. R. 11584 is a bill to authorize a program for the conservation, restoration, and management of the rare Hawaiian Nene goose (*Branta sandvicensis*), which is now considered one of the rarest species of waterfowl in the world.

By action of the Territorial legislature in 1955, the Nene, or Hawaiian goose, was named the official bird of Hawaii.

The history of the effort to preserve the vanishing species of wildlife in the United States is one of too little, too late. The Nene was abundant at one time on the slopes of Mauna Loa and Hualalai in Hawaii and on Haleakala in Maui.

Over the past several decades, this magnificent waterfowl has declined seriously in numbers, due to several factors, including indiscriminate hunting in past years, changes in land use, and the increase of predators, such as wild pigs and dogs. The bird was formerly a migratory one, but became at some time in the distant past a resident of Hawaii.

Today, as a result of extensive efforts, there are less than 50 birds in the wild state. Two captive flocks are in existence, one owned by Mr. Herbert C. Shipman, of Hawaii, and the other by the Wildfowl Trust, Slimbridge, Gloucestershire, England. This latter flock was started from a male and two females in 1950.

In 1955, with the help of interested conservationists in Hawaii and on the mainland, grants to the total amount of $8,000 to finance an ecological survey were secured through the Yale University, Bishop Museum Fellowship, Pan American Section of the International Committee for Bird Preservation, the Guggenheim Foundation, and the McInerny Foundation. Dr. William H. Elder, professor of zoology at the University of Michigan, conducted the study and made a four-step recommendation.

The Legislature of Hawaii and the Territorial administration have made material contributions of effort and money to the preservation of the Nene and its reestablishment. Since July 1, 1949, to June 30, 1958, $22,865 has been expended through the fish and game division of the board of agriculture and forestry. The budget request for the 1958–59 biennium is $17,000.

Within the last month, an agreement was made with the Bishop estate and C. Brewer & Co., owners of the land where the Nene is found in the wild state, for the establishment of a sanctuary which will be maintained and controlled by the fish and game division of the Territorial government. The two owners of the land are allowing the use of their property without compensation. Hawaii has done its part with the means at its command. The Federal assistance is needed so that competent personnel can be assigned to the task of permanently restoring the Nene and seeing the job through. This can be done by enactment of H. R. 11584.

The Wildlife Management Institute, the National Parks Association, the National Audubon Society, the Wildfowl Trust of England, the Federation of Western Outdoor Clubs, the Izaak Walton League of America, among others, have expressed their support of the bill. The Department of the Interior, Fish and Wildlife Service, has recommended enactment of the bill, and the Bureau of the Budget interposes no objection.

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The Department of the Interior, Fish and Wildlife Service, has recommended the enactment of this bill, and the Bureau of the Budget interposes no objection, Mr. Chairman.

Are there any questions?

The CHAIRMAN. Tell us something about the bird. Is it the growth of the islands that has pushed this goose out of existence?

Mr. BURNS. That is correct; partly that. The bird was a migratory bird at some time in the distant past. It became a resident of Hawaii at about the 8,000-foot level of our high mountains there that go over 13,000 feet. As a result of animals, as a result of too much hunting, and as a result of competition with the growth and development of Hawaii, its area where it has lived has been cut down so that, with no attention being paid to it, it could not compete and maintain life with the indiscriminate hunting, changes in land use, and the increase of predators, such as wild pigs and dogs, which have led to its being cut down.

The CHAIRMAN. Is there a closed season on these birds?

Mr. BURNS. Yes, sir; there is no hunting at all.

Mr. GROSS. Who enforces it?

Mr. BURNS. The Territorial fish and game commission.

Mr. ZELENKO. Where do you have these flocks?

Mr. BURNS. We have two flocks in England and a small one owned by an individual from Hawaii.

This bird is peculiar in that it has only a half-webbed foot. It has been living down for such a long time that the web has declined.

Mr. ZELENKO. I think that Congressman Ray joins with me in this. If we do not have one, they would be glad to have one. They are the largest zoological gardens in the world, and they should have one.

Mr. RAY. They surely should.

Mr. GROSS. These geese migrate to other islands, do they?

Mr. BURNS. No, sir.

Mr. GROSS. They are strictly a nonmigratory bird?

Mr. BURNS. Now strictly nonmigratory. That is why they are rare. They were formerly a migratory bird but I do not know where their home was. Little is known about their past history but they acclimated themselves to this 8,000-foot level, or the five- to eight-thousand-foot area of these mountains.

Mr. GROSS. I am trying to establish, what is the jurisdiction of the Federal Government? If they are a migratory fowl, then the Federal Government would have some jurisdiction.

Mr. BURNS. This is only a short-term program of 5 years to assist in maintaining them.

Mr. PELLY. Hawaii will be a State before 5 years, will it not?

Mr. BURNS. Before 5 years, I hope.

Mr. PELLY. Will that not cease when you become a State?

Mr. BURNS. The interest of the Federal Government would be, in my opinion, the interest of maintaining a species that is indigeneous to the United States. That is the primary interest within this.

The CHAIRMAN. Are there any further questions?

Mr. PELLY. Mr. Chairman, I understand there is a similar bill that has been reported out.

Mr. BURNS. Senator Magnuson introduced a similar bill S. 4249 in the Senate which is on the calendar.

The CHAIRMAN. Any further questions?
Thank you, sir.
Now we will hear from Mr. Parker.

STATEMENT OF LANSING A. PARKER, ASSISTANT DIRECTOR, BUREAU OF SPORT FISHERIES AND WILDLIFE, DEPARTMENT OF THE INTERIOR

Mr. PARKER. Mr. Chairman and members of the committee, my name is Lansing A. Parker, Assistant Director of the Bureau of Sports Fisheries and Wildlife, Department of Interior.

In the interest of saving time this morning, I would just like to highlight some of the aspects relating to this particular bill.

As Delegate Burns pointed out, the number of Nene geese has been reduced to the neighborhood of 50 through the years and largely because of the encroachment of human habitation on the habitat.

What is envisioned is that there are some of the areas on Mauna Loa that could be developed and maintained as natural habitat for the Nene goose. Currently the Territory has a small propagation program underway and very recently has entered into an agreement with the large landowner whose ranch contains this habitat. He has agreed to maintain it as a refuge for protection of the Nene goose. Success in the propagation has been well demonstrated, I believe, particularly in the Severn Wildfowl Trust waterfowl area in England. They started about 5 or 6 years ago with a male and 2 females and now have a stock of 56 that resulted from this original stock. It is an artificial propagation proposition and the Territory has, as I said, had a small program in the past. The difficulty has been one of financing.

The Territorial fish and game division does not have adequate funds to do the full job. There have been private funds put into it as well and they have about exhausted all of those possibilities. I was informed by a representative of the Hawaii Territorial Fish and Game Department that the work this last year was done on a part-time basis by the staff working Saturdays and Sundays and evenings to put this project across. What is proposed is the expansion of the propagation effort with the idea of eventually putting some of the birds back in the wild state, not necessarily propagating them for zoos, although I have correspondence with Peter Scott who is the director of the Severn Wildfowl Trust in England, indicating that he is willing now to return to the islands, or zoos in this country, some of the stock that he now has in England.

The Migratory Bird Treaty Act protects the bird in that it is in the same family as the Canada geese. There is no appropriation under this particular act. It is a protective act.

The Migratory Bird Conservation Act does not, we have been told, apply to this type of problem. The Department feels that what should be done is the passage of a specific act which would indicate the intent of the Congress with reference to the propagation of this single species. We do not favor any broad authorization in the propagation of waterfowl and, therefore, we feel that a specific bill aimed at this one species would be the most desirable thing.

That concludes my statement.

The CHAIRMAN. Are there any public lands that this bird ranges on, or is it all private land?

Mr. PARKER. In part it ranges in the national park there. It is largely found on this one ranch, which is now under agreement with the Territorial fish and game department.

The CHAIRMAN. What is the area of the national park?

Mr. PARKER. I am sorry, sir, I do not have that information.

The CHAIRMAN. What is the proportion of the birds in the national park and private lands?

Mr. PARKER. It would be a very small part of the national park that is suitable habitat for the Nene.

The CHAIRMAN. Do you have wildlife protectors in Hawaii?

Mr. PARKER. We do not have. The Territory does.

The CHAIRMAN. Do you have any functions out there? That is, office or any establishment at all?

Mr. PARKER. Not in the Bureau of Sports Fisheries and Wildlife.

The CHAIRMAN. What do you have out there as a branch?

Mr. PARKER. In the Bureau of Sports Fisheries and Wildlife we do not have any personnel at all.

The CHAIRMAN. You do not have any personnel at any area of the Fish and Wildlife Service out there?

Mr. PARKER. The Bureau of Commercial Fisheries has the Pacific Oceanic Fisheries office.

The CHAIRMAN. Who would administer this?

Mr. PARKER. What we envision would be a cooperative agreement with the Territory and they would do the work.

The CHAIRMAN. In other words, this is just giving the Hawaiian Islands $15,000?

Mr. PARKER. That is right.

The CHAIRMAN. What would be the supervision over that?

Mr. PARKER. We have, as you know, two Federal aid programs going on in the Territory and we have men from our Portland office who visit the Territory once a year.

The CHAIRMAN. By Federal aid, what do you mean by that?

Mr. PARKER. Two Federal grants-in-aid programs carried on with the cooperation of the State fish and wildlife people. The Pittman-Robertson and Dingell-Johnson programs.

The CHAIRMAN. Could you not administer this, or aim this bill so that it could be accomplished by action in your Department instead of by this legislation?

Mr. PARKER. The only possible way would be through the Lacey Act. There are no appropriations under the Lacey Act.

The CHAIRMAN. What is the Lacey Act?

Mr. PARKER. That relates to the broad bill to cooperate with the State fish and game departments in the protection of fish and wildlife relating to assistance in the introduction of programs for fish and wildlife as well as relating to interstate transportation of these species.

The CHAIRMAN. Mr. Miller?

Mr. MILLER. These geese are true geese.

Mr. PARKER. That is right.

Mr. MILLER. Part of the same family that is governed by the Migratory Bird Act?

Mr. PARKER. Right.

Mr. MILLER. As such, the Federal Government under this act, has the responsibility?

Mr. PARKER. That is right. They are a close relative of the Canadian geese.

Mr. MILLER. They are close to extermination?

Mr. PARKER. There are less than 50 in the wild now.

Mr. MILLER. You speak of a ranch in Hawaii at which these birds are located.

Is that that big cattle ranch on the island?

Mr. PARKER. It is part of the Bishop estate.

Mr. MILLER. As I understand it, that is one of the biggest ranches in the world, in the United States?

Mr. PARKER. I am not——

Mr. MILLER. As big as the King Ranch?

Mr. PARKER. I am not acquainted with the exact size.

Mr. BURNS. No. 2, right back of the King Ranch.

Mr. MILLER. I think that you have told us that nearly all of the land is private land on that part?

Mr. PARKER. That is right.

Mr. GROSS. What is the name of it?

Mr. PARKER. Bishop Ranch or Bishop estate is what it is called on Mauna Loa.

The CHAIRMAN. Is there any arrangement between the Hawaiian government and the people who own this land that these birds will be protected?

Mr. PARKER. Yes; they have entered into a cooperative agreement closing this entire area and making it an inviolate refuge for all wildlife.

The CHAIRMAN. The habitat of these geese is used for agricultural purposes or any other purposes?

Mr. PARKER. There would be some livestock grazing, but the choice areas are small grasslands located in the middle of the brush country. It is rather inaccessible to livestock at the present time.

The CHAIRMAN. Mr. Tollefson?

Mr. TOLLEFSON. No questions.

The CHAIRMAN. Mr. Ray?

Mr. RAY. This language is very broad. Could you be more specific as to what the money would be spent for?

Mr. PARKER. What we visualize would be a propagation program. As Delegate Burns indicated, a small flock of the Nene is in captivity, and we would propose to expand the plant there—pens to raise the birds and the holding pens located in this particular area where, eventually, we would release the birds raised in captivity back into the wild.

Mr. RAY. That is all.

The CHAIRMAN. Do they reproduce themselves in the natural state?

Mr. PARKER. There has been a small increase in recent years.

The CHAIRMAN. What has held them down; shooting?

Mr. PARKER. No. There may be some illegal shooting, but there is actually no season on any waterfowl in the Territory at the present time. I think, chiefly, it has been free-ranging hogs and dogs and so on, plus poaching, occasionally, that has kept them down.

The CHAIRMAN. Mr. Rivers?

Mr. RIVERS. No questions.

The CHAIRMAN. Mr. Mailliard?

Mr. MAILLIARD. No questions.

The CHAIRMAN. Mr. Dingell?

Mr. DINGELL. Just a couple of brief questions. The fertility of these geese is very low, is it not?

Mr. PARKER. The experience in Hawaii last year indicated that that might be true. However, on the contrary, Peter Scott's work in England indicated that they were rather prolific. He started in 1951 with a male and 2 females, and he currently has a stock of 56.

Mr. DINGELL. If he had been raising mallard ducks, domestic fowl or chickens, or domestic fowl of any kind, he would have had about 1,400 in the same period of time?

Mr. PARKER. That is right, but that is not the case with geese, normally.

Mr. DINGELL. Domestic geese produce pretty close to 1,400 progeny in the same period of time?

Mr. PARKER. Right.

Mr. DINGELL. This is very low fertility, when you compare them with pheasants or quail?

Mr. PARKER. Extremely low, compared with pheasants or quail.

Mr. DINGELL. That is one of the things that holds them down, fertility in eggs and so forth; is that not right? It is about 12 percent; is that not right?

Mr. PARKER. There is no question that their experience in Hawaii indicates that they have had difficulty.

Mr. DINGELL. One of the reasons for this bill is the fact that the Department has, under the agreement with the fish and game commissions on the expenditure of Dingell-Johnson and Pittman-Robertson money, spent no money for propagation; is that right, because the breed was held back?

Mr. PARKER. The Territory has no authority to use Pittman-Robertson funds for that work.

Mr. DINGELL. This animal is in danger of extinction; is that right?

Mr. PARKER. Very definitely.

Mr. DINGELL. Thank you very much, Mr. Chairman.

The CHAIRMAN. Mr. Dorn?

Mr. DORN. No questions.

The CHAIRMAN. Mr. Gross?

Mr. GROSS. What is the total count of these geese, both in and out of captivity?

Mr. PARKER. I would say less than 150.

Mr. GROSS. This $75,000—that is what it means over a period of 5 years, if this bill should be approved—would that go for leasing of lands from this ranch, or what?

Mr. PARKER. No; that was not intended. The authorization would apply only to the propagation and research on the method of increasing this bird.

Mr. GROSS. Plus administration?

Mr. PARKER. What we intended to do, as I say, was to enter into a contract with the Territory to do the work.

Mr. GROSS. You feel, then, that the bulk of the money would be spent for propagation?

Mr. PARKER. Very definitely.

Mr. GROSS. It would not be eaten up by overhead and administration?

Mr. PARKER. No; we do not anticipate, as far as the Bureau is concerned, that we would have any costs.

Mr. GROSS. It would not be a question of several people going out from the Bureau to Hawaii?

Mr. PARKER. We have people who are inspecting Federal-aid programs who visit the islands once every 6 months to a year, and they could look at this thing during the regular trip. It would not entail any administrative costs.

Mr. DORN. Would the gentleman yield?

Would it not be just paying the ranch that is doing the work now for nothing, paying them for doing what they are usually willing to do for nothing?

Mr. PARKER. Currently, it is the Territory's program, and their own employees are doing the work on a part-time basis. They are contributing their time on weekends and so on.

Mr. DORN. It is really paying somebody what they are willing to do for nothing and they are doing now for nothing?

Mr. PARKER. Doing now for nothing, but the Territorial employees feel that they have put in enough time on this for nothing.

Mr. DORN. That is all.

The CHAIRMAN. Mr. Curtin?

Mr. CURTIN. No questions.

The CHAIRMAN. Mr. Nix?

Mr. NIX. No questions.

The CHAIRMAN. Thank you very much.

Mr. Gutermuth?

STATEMENT OF C. R. GUTERMUTH, VICE PRESIDENT, WILDLIFE MANAGEMENT INSTITUTE

Mr. GUTERMUTH. Mr. Chairman, I am not going to sit down, for the sake of time.

I am C. R. Gutermuth, vice president of the Wildlife Management Institute.

Mr. Burns indicated in his statement that practically all of the national conservation organizations and scientific societies are in support of this bill. I could add other names, but that should not be necessary.

The Nene goose definitely is a migratory bird, even though its present habits are sedentary and, consequently, the responsibility for its protection and preservation is that of the United States Fish and Wildlife Service.

Practically nothing has been done; with all due respect to everybody who has made some effort, nothing much has been done to help this bird, which is just about as rare as the whooping crane. It is true that we may have 150 of these birds, if you want to add Peter Scott's 56 birds in England, and a few other birds in captivity in the islands, but, talking about the native wild population of this official bird of Hawaii, we have about 50.

Mr. Dorn, your statement and questions and answers exchanged with Mr. Parker, I think, are somewhat misleading.

The Guggenheim Foundation put up the only money ever provided to conduct research work to give us the facts about this bird.

Private funds have done that and the propagation work that has been done in the Territory up to now has been done by interested United States Fish and Wildlife Service and Territorial employees on their own time, Saturdays and weekends.

I do not think that the ranch that was mentioned earlier has done a thing in that connection. That propagation program has been one of those slipshod things done by volunteer effort. There was no coordination to it, and the fact of the matter is, until Dr. Elder was sent there by the Guggenheim Foundation they did not have any basic facts on the habits and characteristics of this bird.

Now we know up to a certain point what the basic requirements of the bird are. Now we know how to conduct a fairly good management program, and now we are trying to get under this bill, authorization for the conducting of a management program and, like I say, everything that has been done, up until now, has been done by voluntary effort and by a slipshod arrangement. It certainly has not been a credit to us or to anyone.

It has not been a credit to us that this bird has been going down and down and down.

I could answer, I think, practically any questions that you may wish to pose on the subject, but, Mr. Chairman, I am not going to take any more of your time.

The CHAIRMAN. Mr. Nix?

Mr. NIX. No questions.

The CHAIRMAN. Mr. Mailliard?

Mr. MAILLIARD. No questions.

The CHAIRMAN. Mr. Dingell?

Mr. DINGELL. No questions.

The CHAIRMAN. Mr. Dorn?

Mr. DORN. No questions.

The CHAIRMAN. Mr. Macdonald?

Mr. MACDONALD. No, thank you.

The CHAIRMAN. Mr. Gross?

Mr. GROSS. No questions.

The CHAIRMAN. Mr. Curtin?

Mr. CURTIN. No questions.

The CHAIRMAN. You say that this $15,000 would go to the Fish and Wildlife Service of Hawaii to set up a program?

Mr. GUTERMUTH. That is right. Under the present setup, while the United States Fish and Wildlife Service is charged with the responsibility under international treaties to look after migratory birds—of which this is one—under the Territorial setup, we have an Office of Territories in the United States Fish and Wildlife Service and they have been working in close cooperation with them and do have very decided responsibilities with the Territory in looking after these migratory resources over there.

Now, because of the interest of John Woodworth, the director of the Territorial fish and game activities, he and some of his colleagues have been working on weekends, and at off hours, trying to propagate these birds and to do what they could to increase their numbers.

They have had practically no money, and over a period of time, the Territorial government has put up a little money. They have made applications under the Federal Aid Act, to use a rightful share of their money for this purpose, but the projects have not been approved. Under the rules and regulations for the administration of the funds of the Federal Aid Act, no money can be used for propagation purposes and consequently the applications of the Territory to use Federal-aid money to carry on propagation have not been permitted under the rules and regulations of the United States Fish and Wildlife Service.

That is a long-winded thing and I will not go into that.

The CHAIRMAN. What would you spend the $15,000 for?

Mr. GUTERMUTH. They would spend it for a very definite propagation program and for the research needed to go along with the propagation program.

As I say, until Dr. Elder went out there, they did not know much about this bird.

Congressman Dingell brought out the low fertility of this bird, and if we had the same amount of effort as on other species of migratory waterfowl, you would have thousands of young Nene where they now have comparatively none.

Nothing has been said about the mongoose, which was imported into the Territory and which is a serious predator on these geese.

The Nene is a bird, but it also is an animal, and consequently maybe some control might be made on the predators, and on the mongoose in particular. The bulk of this money, as I understand it, would be used to try to propagate these birds in the wild, there in their native habitat.

The CHAIRMAN. Why this 5-year provision?

Mr. GUTERMUTH. They feel that if they cannot manage this bird in 5 years, to bring it back to the point where it is going to begin then to take care of itself, they may as well give up.

The CHAIRMAN. How far do you want to bring them back?

Mr. GUTERMUTH. If they could bring these birds back to a safe level, I believe the bird ultimately would come back.

I can conceive—but have no interest in the hunting aspects, and I want to emphasize that—that this is no different than any other migratory bird, and some day they might even have legal hunting of these birds. I have no interest along that line and that is not what motivates my being here. I think this bird should get its rightful share of protection to prevent its extinction.

Mr. MILLER. Would the gentleman yield?

In parts of California, the prairie chicken was almost extinct and then by protecting it we brought it back to the place where we can hunt it now. Once upon a time in California, there were less than 60 antelope and now other States have them. Today we crop off about 500 antelope a year through protecting their habitat, taking out predators and other things so that we can bring them back.

You have lots of examples of that. Certain little seals along the California coast are almost extinct. The sea otter was almost extinct at one time and a great attraction for the Spaniards and the Russians who came down into the country to take these sea otter herds and they reduced the herds to less than 60.

By good management they are being brought back.

Could that not happen there?

Mr. GUTERMUTH. That is right. Look what we did with the fur seal. We brought that back until the revenue from fur seals has repaid the total cost for the purchase of Alaska by 3 or 4 times.

The antelope that you mentioned provides a marvelous illustration of the possible results of sound management. I can remember the time when everyone regarded the pronghorned antelope, which is found only in this country, as doomed for extinction and now they have an open season in about 14 States every year, and thousands of them are taken annually. It is a very fine trophy animal.

Mr. MILLER. Good eating animal, too.

Mr. GUTERMUTH. I could go on and on with such illustrations, and I think this kind of help might bring this migratory bird back and cetainly, under sound management, the official bird of Hawaii could be maintained.

Like the gentleman said, we can at least preserve enough where this rare and beautiful bird can be put in zoos around the country.

The CHAIRMAN. Gentlemen, we will now go into executive session.

(Thereupon, the hearing was adjourned and the committee went into executive session.)

(The following was furnished for insertion:)

STATEMENT PRESENTED BY LOUIS S. CLAPPER, ASSISTANT CONSERVATION DIRECTOR, NATIONAL WILDLIFE FEDERATION, ON H. R. 11584

The National Wildlife Federation is a nonprofit citizen's organization made up of affiliated groups in 50 States, Territories (including Hawaii) and the District of Columbia. The combined memberships of these affiliates total more than 2 million people.

This statement is being presented today, Mr. Chairman, to urge that favorable consideration be given to H. R. 11584, a bill to authorize a program for the conservation, restoration, and management of the rare Hawaiian nene goose. This request is in accordance with a resolution adopted by the National Wildlife Federation in annual convention at St. Louis, Mo., March 2, 1958. This resolution reads as follows:

"Whereas the Hawaiian goose (*Branta sandwicense*) a native bird existing only in the Hawaiian Islands, a Territory of the United States, is the rarest species of waterfowl in the world today; and

"Whereas this unique fowl, with less than 50 known birds presently remaining in the wild state, is in danger of extinction; and

"Whereas it is imperative that a concerted effort be made to save and reestablish this species; and

"Whereas the National Wildlife Federation is dedicated to a firm policy of saving from extermination every beneficial form of wildlife: Now, therefore, be it

"*Resolved*, That the National Wildlife Federation shall lend its full support to the effort and program designed to save and perpetuate this unique and valuable species, and especially urge congressional enactment of a proposed appropriation to be devoted to such purpose."

It is believed that a program of research, propagation and management proposed in H. R. 11584 would be adequate to effect the restoration of this unique and native species of waterfowl which is threatened with imminent extinction.

Thank you, Mr. Chairman, for the opportunity of appearing before the committee.

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